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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         YPYNQCAVVGNGGILNKSLCGARIDKSDFVFRCNLPPITGSASKDVGSKTNLVTVNPSII
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Mammalia, Eutheria, Euarchontoglires, Glires, Rodentia, Sciurognathi,
Muroidea, Muridae, Murinae, Mus.
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                                                                                                                                                                                                                                     0; Gaps
                                   (Potential).
     (GlcNAc. . .) (Potential) (GlcNAc. . .) (Potential) (GlcNAc. . .) (Potential)
                                                                                                                                                                          ; Score 2102; DB 1; Length 398;
; Pred. No. 2.5e-156;
0; Mismatches 0; Indels 0
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Activated spleen cDNA, RIKEN full-length enriched library, clone: #830206C17 product: sialyltransferase 8 (alpha-2, 8-sialyltransferase) F, full insert sequence.
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STRAIN=NOD; TISSUE=Activated spleen;
PubMed=16141072; DOI=10.1126/science.1112014;
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UNCLECTIDE SEQUENCE.

CSTRAIN-BOOP, TISSUE-ACTIVATED SP151, DOI=10.1038/35055500,

WASTAIN-BOOP, TISSUE-ACTIVATED SP1.

WASTAIN-BOOP, TISSUE-ACTIVATED K., Yoshino M., Itoh M., Ishii Y.,

RA Arawam T., Hara A., Fukunishi Y., Komno H., Adachi J., Fukuda S.,

A Arawam T., Hara A., Fukunishi Y., Komno H., Adachi J., Fukuda S.,

A Alzawa K., Izawa M., Nishi K., Kiyosawa H., Komdo S., Yamanaka I.,

RA Azawa K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,

RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,

RA Fleischmann W., Gaasterland T., Gilssi C., King B., Kochiwa H.,

RA Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,

RA Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,

RA Schriml L.M., Staubli P., Bojunga N., Carninci P., de Bonaldo M.F.,

RA Blake J., Boffelli D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,

Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,

Lyons P., Marchionni L., Mashima J., Matazarelli J., Mondone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,

Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,

RA Wynshaw Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,

RA Havashizaki Y.,

RA Havashizaki Y.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN=NOD; TISSUB=Activated spleen;
MEDILINE=2049914; Pubmed=11042119; DC=10.1101/gr.145100;
Carninci P., Shibata Y., Hayatsu N., Sugahara Y., Shibata K., Itoh M.,
Konno H., Okazaki Y., Muramatsu M., Hayashizaki Y.;
Normalization and subtraction of cap-trapper-selected cDNAs to
prepare full-length cDNA libraries for rapid discovery of new genes.";
Genome Res. 10:1617-1630(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE-20530913; PubMed=11076861; DOI=10.1101/gr.152600; Shibata K., Tcoh M., Aizawa K., Nagaoka S., Sasaki N., Carninci P., Shibata K., Tcoh M., Aizawa K., Nagaoka S., Sasaki N., Carninci P., Skonno H., Akiyama J., Niahi K., Nateunai T., Tashiro H., Itoh M., Yamamoto R., Matsumoto H., Sakaguchi S., Ikegami T., Kashiwagi K., Yamamoto R., Matsumoto H., Sakaguchi S., Ikegami T., Kashiwagi K., Yoneda Y., Ishikawa T., Ozawa K., Tanaka M., Ohara E., Watshiki M., Yoneda Y., Ishikawa T., Ozawa K., Tanaka T., Matsuura S., Kawai J., Natki in Y., Muramatsu M., Inoue Y., Kira A., Hayashizaki Y., "RIKEN integrated sequence analysis (RISA) system-384-format Genome Res. 10:1757-1771(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN=NOD; TISSUE=Activated spleen;
Arakava T., Carninci P., Pukuda S., Hashizume W., Hayashida K.,
Hori F., Iida J., Immura K., Imotani K., Itoh M., Kanagawa S.,
Kawai J., Kojima M., Konno H., Murata M., Nakamura M., Ninomiya N.,
Nishiyori H., Nomura K., Ohno M., Sakazume N., Sano H., Sasaki D.,
Shibata K., Shiraki T., Tagami M., Tagami Y., Waki K., Watahiki A.,
Muramatsu M., Hayashizaki Y.,
Submitted (APR-2004) to the EMBL/GenBank/DDBJ databases.
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MGI; MGI:2386797; st8sia6.
GO; GO:0008373; F:sialyltransferase activity; IDA.
GO; GO:0016051; P:carbolydate biosynthesis; IDA.
GO; GO:0009247; P:glycolipid biosynthesis; IDA.
GO; GO:0006493; P:protein amino acid O-linked glycosylation; IDA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hayashizaki Y.;
"Functional annotation of a full-length mouse cDNA collection.";
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InterPro; IPR012163; Sialyl trans.
InterPro; IPR012163; Sialyl trans.
Pfam; PP00777; Glyco transf 29; 1.
PIRSF; PIRSF005557; Filalyl trans; 1.
Glycosyltransferase; Transferase.
SEQUENCE 405 AA; 46323 MW; 48B7A17BE3443487 CRC64;
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QYSLNSLSNKTRRYSEDDYLQTITNIQRCPWNRQAE 120 180 300 9 9 tium, see http://www.uniprot.org/terms mmons Attribution-NoDerivs License QYSLNSLSNKTRRYSEDDYLQTITNIQRCPWNRQAE LMIASVAVELCENVKLYGFWPFSKTIEDTPLSHHYY CPADAPARSRLLMEGSREDTSGTSAALKTLWSPTTP CPADAPARSRLLMEGSREDTSGTSAALKTLWSPTTP NTPVGTNMSYEVESKKHIPIRENIFHMFPVSQPFVD INTPVGTNMSYEVESKKHIPIRENIFHMFPVSQPFVD FLLLPAFSYRANTGISFKVYQTLKESKMRQKVLFFH FLLLPAPSYRANTGISFKVYQTLKESKMRQKVLPFH MIASVAVELCENVKLYGFWPFSKTIEDTPLSHHYY DKSDFVFRCNLPPITGSASKDVGSKTNLVTVNPSII DKSDFVFRCNLPPITGSASKDVGSKTNLVTVNPSII ob/cwi063; Delannoy P., Oriol R.; d sialyltransferase-related genes: a niata, Vertebrata, Euteleostomi; res; Glires; Rodentia; Sciurognathi; Gaps ; 0 Length 405; Length 398; EMBL; AJ699423; CGG27885.1; -; m.NA.

Ensembl; ENSRNOG0000018171; Ratius norvegicus.

R G0; G0:003173; C:integral to Gc gi membrane; IEA.

G0; G0:00008373; F:sialyltransfer se activity; IEA.

R G0; G0:0006486; P:protein amino cid glycosylation; IEA.

InterPro; IPR001675; Glyco trans 29.

R InterPro; IPR012163; Sialyl trans.

R Pfam; PF0077; Glyco_transf_29;

R Pfam; PRSFP00557; Sialyl trans.

GN Glycosyltransferase; Transferase;

GN GROUDD781E06 CRC64; 0; Indels RGILKLOFSKCETA 398 Score 2102; DB 2; Pred. No. 2.5e-156; ; ilsmatches 0; RGILKLOFSKCETA 5; rotKB/TrEMBL 8 Ź e 1936; Eukaryota, Metazoa, Chordata, Cr Mammalia, Eutheria, Buarchontogl Muroidea, Muridae, Murinae, Ratt 61 VPRTRNSTYLDEKTTOITEKCK EYDNFRAKLASCCDAIQDFVVSQ 181 YPYNOCAVVGNGGILNKSLCGAR PRYLRHLALFWRTKGVTAYRLST DIMLPKHGFHQMPKEYSQMLQLH 77 RAT
06ZXC7_RAT PRELIMINARY; PR
06ZXC7;
05-JUL-2004, integrated into Uni
05-JUL-2004, sequence version 1.
07-FEB-2006, entry version 10. Sco MRSGGTLFALIGSLMLLLLLRMI 61 VPRTRNSTYLDEKTTOITEKCKU 241 TLKYONLKEKKAOFLEDISTYGI STRAIN-Sprague Dawley;
Pubked-1884359; DOI-10.1093/gly
Harduin-Lepers A., Mollicone R.,
"The animal stalyltransferases a Copyrighted by the UniProt Conso Distributed under the Creative (YPYNOCAVVGNGGILNKSLOGAE TLKYQNLKBKKAQFLEDISTYGI DNML PKHGFHOMPKEY SOMLOLH 1 MRSGGTLFALIGSLMLLLLLRMI **EYDNFRAKLASCCDAIODFVVS** PRYLRHLALFWRTKGVTAYRLST ö 100.0%; phylogenetic approach."; Glycobiology 15:805-817(2005) Alpha-2,8-sialyltransferase. 92.18; Matches 398; Conservative Rattus norvegicus (Rat) NUCLEOTIDE SEQUENCE. Query Match Best Local Similarity NCBI_TaxID=10116; Name=SIAT8F; 361 121 121 181 301 241 301 361 Query Match RESULT 3 Q6ZXC7 ò 원 셤 g 셤 ò 셤 ઠે ò ઠે 슝

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Carbiniciping, Strate-CSTBL/63; TISSUE-Lung;

Retained F., Kasukawa T., Katayama S., Gough J., Frith M.C., Maeda N., Carninci P., Kasukawa T., Katayama S., Gough J., Frith M.C., Maeda N., Carninci P., Kasukawa T., Lenhard B., Wells C., Kodzius R., Shimokawa K., Bajic V.B., Brenner S.E., Batalov S., Forrest A.R., Zavolan M., Bayis W.J., Wilming L.G., Aidnis V., Allen J.E.,

Ambesi-Impiombato A., Apweiler R., Aturaliya R.N., Bailey T.L., Ambesi-Impiombato A., Apweiler R., Aturaliya R.N., Bailey T.L., Chou K.P., Choudhary V., Christoffels A., Clutterbuck D.R., Chu K.P., Choudhary V., Christoffels A., Clutterbuck D.R., Chow M.L., Dalla B., Dalla Gatta G., Crow M.L., Dalla B., Dalla Gatta G., Fletcher C.F., Fukushima T., Engstrom P., Fagiolini M., Faulkner G., A Georgii-Hemming P., Gingeras T.R., Gojobori T., Green R.B., Goorgii-Hemming P., Gingeras T.R., Gojobori T., Green R.B., Attlin D., Huminiecki L., Iacono M., Ikeo K., Iwama A., Ishikawa T., Jakt M., Kanapin A., Katoh M., Kawasawa Y., Kelso J., Kitamura H., Aitano H., Kollias G., Krishnan S.P., Kruger A., Kummerfeld S.K.,
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Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi;
Muroidea; Muridae; Murinae; Mus.
NCBI_TaxID=10090;
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MEDLINE-99279253; PubMed=10349636; DOI=10.1016/S0076-6879(99)03004-9;
Carninci P., Hayashizaki Y.;
"High-efficiency full-length cDNA cloning.";
Methods Enzymol. 303:19-44(1999).
                                                                          1 MRSGGTLFALIGSLMILLILRMLWCPADAPARSRILMEGSREDTSGTSAALKTLWSPTTP
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07-FEB-2006, entry version 21.
13 days embryo lung cDNA, RIKEN full-length enriched library, clone:D430037E10 product:weakly similar to SIALYLTRANSFERASE Nume = B188146; Synowys=Siat8f;
Mus musculus (Mouse).
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90.5%; Pred. No. 2.6e-143;
iive 20; Mismatches 18;
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C. Pavan W.J., Pavesi G., Pesole G.,
Reid J.F., Ring B.Z., Ringwald M.,
Sandelin A., Schneider C.,
Sandelin A., Schneider C.,
Sandelin A., Sessa L., Sheng Y.,
S., Sand J. F., Taki K.,
J., Sandelin B.,
Silva D., Sinclair B.,
T., Alor M.S., Teggren J., Teichmann S.A.,
Jor M.S., Teggren J., Teichmann S.A.,
Alor M.S., Teggren J., Teichmann S.A.,
Alor M.S., Teggren J., Teichmann S.A.,
Tho M.S., Teggren J., Teichmann S.A.,
Thu S., Zimmer A., Hide W., Bult C.,
Lil B.T., Burusic V., Quackenbush J.,
M. S., Kan C., Sasaki D., Tomaru Y.,
Ka J., Kaal C., Sasaki D., Tomaru Y.,
S., Konno H., Nakano K., Ninomiya N.,
hibata K., Shiraki T., Suzuki S.,
hibata K., Shiraki T., Suzuki S., 15. DOI=10.1038/nature01266;
2. Adachi J., Bono H., Kondo S.,
2. Ualuki H., Samanaka I., Kiyosawa H.,
2. Nogami A., Schonbach C., Gojobori T.,
3. Hume D.A., Quackenbush J.,
3. Corbani L.E., Cousins S.,
3. C., Godzik A., Frazer K.S.,
3. E., Godzik A., Frazer K.S.,
3. E., Godzik A., Gough J.,
5. E., Forrest A., Frazer K.S.,
3. Cawa N., Jackson I.J., Jarvis E.D.,
5. E., Cousins S.,
5. Teagran M., King B.L.,
5. Teagran M., Pertea G., Pesole G.,
5. Teagran M.J., Pertea G., Pesole G.,
5. Teagran M.S., Ringwald M.,
5. Teagran M.S., Ringwald M.,
6. C., Wang Y., Watanabe Y., Wells
6. Watanabe Y., Wells
6. Watanabe Y., W ome based on functional annotation of ; DOI=10.1038/35055500; ., Yoshino M., Itoh M., Ishii Y., ., Konno H., Adachi J., Fukuda S., yosawa H., Kondo S., Yamanaka I., Bono H., Kasukawa T., Saito R., nce.1112009; Group, and Genome Science Group E FANTOM CONSORTium; ammalian Transcriptome."; on R., Lander B.S., Rogers J., Shibata K., Shinagawa A. "The transcriptional landscape o the mammalian genome."; Science 309:1559-1563 (2005). Kurochkin I.V., Lareau L.F., Lazrev Liuni S., Modilliam S., Madan Ball M Matsudad H., Matsuzawa S., Miki H. M Mottagui-Tabar S., Milder N., Malan Nilsson R., Mishiguchi S., Nishia awa Okazaki Y., Orlando V., Pang K.C., P. Petrovsky N., Piazza S., Reed J., San Root B., Ruan Y., Salzberg S.L., San Schonbach C., Sekiguchi K., Semp C. Shibata Y., Shimada H., Shimada J., Sperling S., Stupka E., Sugiura Jammoja K., Tan S.L., Tang S., Taylo Ueda H.R., van Nimwegen E., Verz do Yamanishi H., Zabarovsky E., Zhu S., Grimond S.M., Teasdala R.D., Li E., Wahllestedt C., Mattick U.S., Hum D., Fukuda S., Kanamori-Katayama M., Suzilida J., Imamuza K., Itoh M., Ka O T Kawashima T., Kojima M., Kondo S., Kibhio T., Okada M., Plessy C., Hibhio T MEDINE ELSAGOS) TO MACHINE ELSAGOS (NAZAKI Y., FURTHO M., SAITO R., NIKAGO I., OBATO N., SAITO R., NIKAGO I., OBATO N., SAITO R., NIKAGO I., OBATO N., SAITO R., NOG BALGAREIT R., HILD D.P., BULT C., Blake J.A., Bradt D., Brust C., Cholalla E., Dragani T.A., Fletcher C. F. Gaasterland T., Gariboldi M., Gi si Grimmond S., Guetincich S., Hiro awa Kanai A., Kawai H., Kawasia H., Kawasia H., Kawasa Y. Ke Konagaya A., Kurochkin I.V., Lee Y., Madgashima T., Maltais L., Marchimni Magashima T., Mumata K., Obido T., Petrovsky N., Pillais E., Pontius J. U. Ravasi T., Reed J.C., Reed D.J., Rei Sandlin A., Schneider C., Saultana R., Wagner L., Wahlested, C. Wilming L.G., Wynshaw Boris A., Maklested, C. Wilming L.G., Wynshaw Boris A., Maklested, C. Miraka T., Konno H., Mak Shirak T., Waki K., Kawai J., Azak Hara A., Hashizume W., Imotani K., Imerak T., Waki K., Kawai J., Azak Hara A., Hashizume W., Imotani K., Interested STRAIN-C57BL/6J; TISSUE-Lung; PubMed=16141073; DOI=10.1126/8ci mc RIKEN Genome Exploration Researc Genome Network Core Team) and the "Antisense Transcription in the am Science 309:1564-1566(2005). STRAIN-CS7BL/6J; TISSUB-Lung; MEDLINE-21085660; PubMed=1121785 Kawai J., Shinagawa A., Shibata Arakawa T., Hara A., Fukunishi Y Aizawa K., Izawa M., Nishi K., X Saito T., Okazaki Y., Gojobori T Yasunishi A., Yoshino M., Waters Birney E., Hayashizaki Y.; "Analysis of the mouse transcrip 60,770 full-length cDNAs."; STRAIN=C57BL/6J; TISSUE=Lung; MEDLINE=22354683; PubMed=1246685 Nature 420:563-573 (2002).

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Radota K., Matsada H.A., Ambhurnar M., Casavant T.,
R. Rodall P. Leader Gaseriand H.A., Ambhurnar M., Batallo S., Casavant T.,
R. Monahl P. Leader S. Statis R., Tomita M., Wagnar L., Washin T.,
R. Monahl P. L.M., Stabili F., Suizid R., Tomita M., Wagnar L., Washin T.,
R. Mahl P. L.M., Stabili F., Suizid R., Tomita M., Wagnar L., Washin T.,
R. Black J., Boffelli D., Bojunga N., Carninci P., Garalla M., Lee N.H.,
R. Decometein M., J. Bult C., Pletcher M., Carninci P., Garalla M., Lee N.H.,
R. Darcometein M.J., Bult C., Pletcher M., Carninci P., Garalla M., Lee N.H.,
R. Darcometein M., Schill D., Rohman M., Mune D.M., Kamiya M., Lee N.H.,
R. Darcometein M., Schill D., Rohman M., Radotayaz I., Sakanoro N., H.,
R. Marchinani L., Washin M., Rodriguz I., Sakanoro N., He.,
R. Marchinani L., Washin M., Rodriguz I., Sakanoro N., Research M., Rohman M., Lee N.H.,
R. Marchinani L., Washin M., Rasegawa Y., Kawii H., Kohreukk S.,
R. Marchinani L., Washin M., Hasegawa Y., Kawii H., Kohreukk S.,
R. Marchinani L., Shikata Y., Yobhida M., Hasegawa Y., Kawii H., Kohreukk S.,
R. Marchinani L., Shikata Y., Hasegawa Y., Kawii H., Kohreukk S.,
R. Wannin H., Garad M., Marchan M., Sayana Y., Shibata Y., Shibata Y., Shibata Y., Shibata Y., Hayashiraki Y.,
R. Marching P., Shikata Y., Hayasak M., Sayana Y., Shibata Y., Shibata Y., Hayasak M., Marchan M., M

ö 156 120 216 276 240 PRYLRHLALFWRTKGVTAYRLSTGLMIASVAVELCE 336 96 9 tium, see http://www.uniprot.org/terms mmnons Attribution-NoDerivs License pparatus; Golgi membrane; single-pass
ential). niata, Vertebrata, Euteleostomi, res, Primates, Catarrhini, Hominidae, 1 MEGSREDTSGTSAALKTLMSPTTPVPRTRNSTYLDEKTTQITEKCKDLQYSLNSLSNKTR EYDNFRAKLASCCDAIQDFVVSQNNTPVGTNMSYEV EBYDNFRAKLASCCDAIQDFVVSQNNTPVGTNMSYEV DINAL PKHGFHQMPKEYSQMLQLHMRGILKLQFSKCE YPYNOCAVVGNGGILNKSLCGAEIDKSDFVFRCNLP TLKYONLKEKKAOFLEDISTYGDAFLLLPAFSYRAN DNMLPKHGPHQMPKEYSQMLQLHMRGILKLQFSKCE VPRTRNSTYLDEKTTOITEKCKDLOYSLNSLSNKTR to N-glycans or glycolipids as mal acceptor substrate is the NeuActhe nonreducing end of their Gape ; 0 ycosyltransferase 29 family. Length 362; P., Harduin-Lepers A.; of a sixth human alpha2,8-HGNC; HGNC: 23317; ST8SIA6.

InterPro, IPR01675; Glyco trang 29.

InterPro, IPR012163; Sialyl trang.

Plan, PP00777; Glyco trang. 29.

PIRSP; PIRSP05557; Sialyl trang. 1.

Glycoprotein; Glycosyltrangferas; Golgi stack; Membrane; Indels C 2.4.99.-) (ST8Sia VI) GenBank/DDBJ databases re 1922; DB 2; I ed. No. 2.9e-142; Mismatches 0; rotKB/Swiss-Prot 398 AA. NA. piens. arity) Teintenier-Lelievre M., Delannoy P., Molecular cloning and expression of stally transferase (hST85iav1).", Submitted (JAN-2004) to the EXRID. I- FUNCTION: Prefers O-glycans acceptor substrates. The mir mal alpha-2,3(6)-Gal sequence at the carbohydrate groups (By similaria) 91.4%; Sc 100.0%; P. P 07-JUN-2004, integrated into Unit 07-JUN-2004, sequence version 1. 07-FEB-2006, entry version 16. Alpha-2, 8-sialyltransferase 8F Name-ST8SIA6; Synonyms-SIAT8F; Homo sapiens (Human). Eukaryota; Metazoa; Chordata; Cr Mammalia; Eutheria; Euarchontogi TGISFKVYQTLKESKMRQKVLFI 301 NVKLYGFWPFSKTIEDTPLSHHY ESKKHI PIRENI FHMF PVSOPFV PITGSASKDVGSKTNLVTVNPS1 -!- PATHWAY: Glycosylation. -!- SUBSCELLULAR LOCATION: Golgi type II membrane protein (Pe -!- SIMILARITY: Belongs to the e Copyrighted by the UniProt Conso Distributed under the Creative C 97 RYSEDDYLQTITNIORCPWNROA RYSEDDYLOTITNIORCPWNRO 337 NVKLYGFWPFSKTIEDTPLSHHY ESKKHIPIRENIFHMFPVSOPFY PITGSASKDVGSKTNLVTVNPS TGISFKVYQTLKESKMRQKVLFI 37 MEGSREDTSGTSAALKTLWSPT EMBL; AJ621583; CAF21722.1; -; Ensembl; ENSG0000148488; Homo NUCLEOTIDE SEQUENCE [MRNA] Query Match Best Local Similarity 100. Matches 362; Conservative STANDARD; NCBI_TaxID=9606; 397 TA 398 361 TA 362 HUMAN 61 157 121 217 181 277 241 SIA8F HU P61647; HUMAN Homo. RESULT 셤 g 셤 셤 셤 WAR BURRESCOOR COOR STATE AND STATE ò ò ઠે 8 유 ò ò

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Mammalia; Butheria; Buarchontoglires; Primates; Catarrhini; Hominidae;
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       Alpha-2, 8-sialyltransferase 8F.
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CytoplasmIc (Potential).
Signal-anchor for type II membrane protein (Potential).
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                                                                                                                                Query Match

84.3%; Score 1772; DB 1; Length 398;

Best Local Similarity 82.7%; Pred. No. 2e-130;

Matches 329; Conservative 30; Mismatches 39; Indels (
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10-MAY-2005, sequence version 1.
07-FEB-2006, entry version 8.
Likely ortholog of mouse sialyltransferase 8-VI
sialyrransferase) (STBSIA-VI).
Name=RPII-414KI.1; ORFNames=RPII-414KI.1-001;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                          niata, Vertebrata, Euteleostomi,
res, Primates, Catarrhini, Hominidae,
                                                                                                                                                                                                                                                                                                                                                                                                   TPVGTNMSY EVESKKHI PIRENI FHMFPVSQPFVD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DKSDFVFRCNLPPTTGDVSKDVGSKTNLVTINPSII
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                                                                                                                                                                                                                                                                                                                                                                              PADAPARSRLLMEGSREDTSGTSAALKTLWSPTTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                        YSLNSLSNKTRRYSEDDYLQTITNIQRCPWNRQAE
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                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Phylogeny of stalyltransferases";
Submitted (APR-2004) to the EMBL GenBank/DDBJ databases.
-!- FUNCTION: Prefers O-glycans to N-glycans or glycolipids as acceptor substrates. The min mal acceptor substrate is the alpha-2,3(6)-Gal sequence at the nonreducing end of their
                                                                                                                                                                                                                                                                                                                                            ö
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                                                                                                                                                                                                                                                                                                       Length
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                                                                                                                                                      cid glycosylation; IEA.
                                                                                                                                                                                                                                                                  758B82E4B69A26 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RGILKLOFSKCETA 398
                                                                                                                 gi membrane; IEA
se activity; IEA
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                                                                                                                                                                                                                                                                                                   e 1772; DB 2;
. No. 2e-130;
ismatches 39;
                       D; Genomic_DNA.
                                       lomic_DNA.
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                                                                              tens.
EMBL, AL158164, CAI40658.1; -; G non EMBL, AL160289; CAI40628.1; JOIN D; EMBL, AL160289; CAH70722.1; -; G non EMBL, AL180289; CAH70722.1; -; G non EMBL, AL180289; CAH70722.1; -; G non EMBL, AL189164; CAH70722.1; JOIN D; Ensembl; ENSG0000148488; Homo spit GNC, GO:0003173; C:integral to Go go; GO:0003173; P:sialyltransfer ge Go; GO:0003173; P:sialyltransfer ge Go; GO:000686; P:protein amino citinterPro; IPR001675; Glyco trans 29: InterPro; IPR012163; Sialyl trans 29: PIRSP; PIRSP05557; Sialyl trans Glycosyltransferase; Transferase SEQUENCE 398 AA; 44836 MW; 4 FES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PR
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Eukaryota, Metazoa, Chordata, Cr
Mammalia, Eutheria, Euarchontogli
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         07-JUN-2004, integrated into Uni
07-JUN-2004, sequence version 1.
07-FEB-2006, entry version 15.
                                                                                                                                                                                                                                                                                                       84.3%; Sco
82.7%; Pre
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                                                                                                                                                                                                                                                                                                                                                                                1 MRSGGTLFALIGSLMLLLLLRML
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Name=ST8SIA6; Synonyms=SIAT8F;
                                                                                                                                                                                                                                                                                                                                            30;
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                                                                                                                                                                                                                                                                                                                         st Local Similarity 82.7 tches 329; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=9598;
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P61648;
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SIA8F P
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61 VPRTRNSTYLDEKTTQITEKCKI
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mmmons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CPADAPARSRLLMEGSREDTSGTSAALKTLWSPTTP
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lliformes, Phasianidae, Phasianinae;
                                                                                                                cob/cwi063;
Delannoy P., Oriol R.;
d sialyltransferase-related genes:
a; Cetartiodactyla; Ruminantia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 398;
                                                                                                                                                                                                                                                                                                                                                              gi membrane; IEA.
se activity; IEA.
cid glycosylation; IEA.
29.
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No. 1.1e-116;
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                                                                                                                                                                                                                                                                                                                                                           taurus.
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74.6%; Pref. No.
                                                                                                                                                                                                                                                                                                                      EMBL; AJ868431; CAI30813.1; -; w NA Ensembl; EMSETAGO0000011366; Bos tan CO; GO: 000003713; C:integral to GC gO; GO: 0000486; P:protein amino cilinterPro; IPRO01575; Glyco trans 29 InterPro; IPRO12163; Sialyl trans Pfam; PP00777; Glyco transf_29; PIRSF; PIRSF05557; Sialyl trans Glycosyltransferase; Transferase NON TER 398 398
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05-JUL_2004, sequence version 1.
07-FEB-2006, entry, version 10.
Alpha-2,8-sialyltransferase.
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                                                                                                              PubMed=15843597; DOI=10.1093/gly
Harduin-Lepers A., Mollicone R.,
The animal stalyltransferases a
phylogenetic approach.";
Glycobiology 15:805-817(2005).
                                                                                                                                                                                                                                                       Copyrighted by the UniProt Conso
Distributed under;the Creative (
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Eukaryota, Metazoa, Chordata, C
Archosauria, Aves; Neognathae;
                      Pecora; Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                398 AA; 45033 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity 74.6
Matches 297; Conservative
                                                                                             NUCLEOTIDE SEOUENCE.
                                         NCBI_TaxID=9913;
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                                                                                                                     Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Creative Commons Attribution-NoDerive License
                   -!- PATHWAY: Glycosylation.
-!- SUBCELLULAR LOCATION: Golgi apparatus; Golgi membrane; single-pass type II membrane protein (Potential).
-!- SIMILARITY: Belongs to the glycosyltransferase 29 family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241 TLKYGNLKEKKALFLEDIATYGEAFFLLPARSFRANTGTSFKVYYTLEESKARQKVLFFH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301 PKYLKDLALFWRTKGVTAYRLSTGLMITSVAVELCKNVKLYGFWPFSKTVEDIPVSHHYY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 MRPGGALLALLASLILLILILIRLLWCPADAPGRARILVEESREATHGTPAALRTLRSPATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MRSGGTLFALIGSLMLLLLLRMLWCPADAPARSRLLMEGSREDTSGTSAALKTLWSPTTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181 YPYNQCAVVGNGGILNKSLCGAEIDKSDFVFRCNLPPITGSASKDVGSKTNLVTVNPSII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bos taurus (Bovine).
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
                                                                                                                                                                                                                                                                                                                                                                                                  /FIId=PRO 0000149301.
Cytoplasmic (Potential).
Signal-anchor for type II membrane protein (Potential).
Lumenal (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N-linked (GlcNAc. .) (Potential)
N-linked (GlcNAc. .) (Potential)
N-linked (GlcNAc. .) (Potential)
N-linked (GlcNAc. .) (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;
0
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                                                                                                                                                                                                        EMBL; AJ697663; CAG26901.1; -; mRNA.
InterPro; IPR010f7; Glyco_trans_29.
InterPro; IPR012163; Sialyl_trans.
Pfam; PF00777; Glyco_transf_29; 1.
PIRSF; PIRSP005557; Sialyl_trans; 1.
Glycoprotein; Glycosyltransferase; Golgi stack; Membrane; Signal-anchor; Transferase; Transmembrane.
                                                                                                                                                                                                                                                                                                                                                                               Alpha-2,8-sialyltransferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        40; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           45794C7A63425554 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361 DNWLPXHGFHQMPKEYSQMLQLHMRGILKLQFSKCETA 398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DEDVIN
QSNDGO_BOVIN
QSNDGO_BOVIN
PRELIMINARY; PRT; 398 AA.
QSNDGO_BOVIN
PEB-2005, integrated into UniProtKB/TrEMBL
01-FEB-2005, sequence version 1.
07-FEB-2006, entry version 6.
Alpha-2,8-slalyltransferase (Fragment).
Name=slat8F;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        31; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       By similarity
  carbohydrate groups (By similarity)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             44859 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches 327; Conservative
                                                                                                                                                                                                                                                                                                                                                                               398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               398
66
93
151
196
335
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196
186
398 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DISULPID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
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       ob/cwi063;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 e 728;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        fer).
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Eukaryota, Metazoa, Chordata, Cr
Actinopterygii, Neopterygii, Tel
Acauthomorpha, Acanthopterygii,
Tetradontoidea, Tetraodontidae;
     PubMed=15843597, DOI=10.1093/gly
Harduin-Lepers A., Mollicone R.,
"The animal sialyltransferases a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NYIKRVKTSELFERWRNLQVCKW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  220 NTRNTDVSFRVKYMLDDFESSRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         05-JUL-2004, integrated into Uni
05-JUL-2004, sequence version 1.
07-FEB-2006, entry version 10.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Alpha-2,8-sialyltransferase ST8S
Name=siat 8E;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                93 NKTRRYSEDDYLQTITNIQRCPW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                YRANTGISFKVYQTLKESKWRQK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PubMed=15843597; DOI=10.1093/gly
Harduin-Lepers A., Mollicone R.,
"The animal sialyltransferases a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   153 SYEVESKKHIPIRENIFHMFPVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ELCENVKLYGFWPFSKTIEDTPL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26;
                                                                             phylogenetic approach.";
Glycobiology 15:805-817(2005)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      phylogenetic approach.";
Glycobiology 15:805-817(2005)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               343 AA; 39768 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 34.68;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity 44.2%;
Matches 134; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QEKCOO TETNG PRELIMINARY;
QEKCOO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           343
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     393 SKC 395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      340 GPC 342
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                              NON TER
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        208
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SVAVELCENVKLYGFWPFSKTIEDTPLSHHYYDNMLPKHGFHQMPKEYSQMLQLHMRGIL 388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             88
                                                                                                                                                                                                                                                      Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTNMSYEVESKKHIPIRENIFHMPPVSQPFVDYPYNQCAVVGNGGILNKSLCGAEIDKSD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LLMEGSRED----TSGTSAALKTLWSPTTPVPRTRNSTYLDEK----TTQITEKCKDLQYSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FVFRCNLPPITGSASKDVGSKTNLVTVNPSIITLKYQNLKEKKAQFLEDISTYGDAFLLL
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostel; Ostariophysi; Cypriniformes;
                                                                                                     PubMed=15843597; DOI=10.1093/glycob/cwi063;
Harduin-Lepers A., Mollicone R., Delannoy P., Oriol R.;
"The animal sialyltransferases and sialyltransferase-related genes:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
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Name=siat 8E;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match

56.3%; Score 1183; DB 2; Length 398;

Best Local Similarity 60.7%; Pred. No. 3.5e-84;

Matches 224; Conservative 49; Mismatches 90; Indels 6
                                                                                                                                                                                                                                                                                                                      EMBL, AJ699424; CAG27886.1; -; mRNA.
GO; GO:0030173; C:integral to Golgi membrane; IEA.
GO; GO:008373; F:sialyltransferase activity; IEA.
GO; GO:0006489; F:protein amino acid glycosylation; IEA.
InterPro; IPR011675; Glyco trans 29.
InterPro; IPR012163; Sialyl trans.
Pfam; PR0777; Glyco transferase
Pfam; PRSF005557; Sialyl trans; 1.
Glycosyltransferase; Transferase.
SEQUENCE 398 AA; 44877 MW; 7D334FF316460667 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               05-JUL-2004, integrated into UniProtKB/TrEMBL
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                                                                                                                                                                             phylogenetic approach.";
Glycobiology 15:805-817(2005)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KLOPGKCES 397
                                                                             NUCLEOTIDE SEQUENCE
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NUCLEOTIDE SEQUENCE.
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Gallus.
NCBI_TaxID=9031;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=7955;
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QEKC02;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LFFHPRYLRHLALFWRTKGVTAYRLSTGLMIASVAV 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ELCEEVHLYGFWAFPMNPSGIFTHHYYDNVKPRPGFHAMPYBIFNFWHWHARGIVHVHT 339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HHYYDNMLPKHGFHQMPKEYSQMLQLHMRGILKLQF 392
                                                                                                       Copyrighted by the UniProt Consolium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FFFHPQYLLNVQRFWAVQGVRAKRLSSGLMLVTAAM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PSIITLKYQNLKEKKAQFLEDISTYGDAFLLLPAFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DNKEETDNFKMSLSRCCNAPSFLFTTKRNTPSGTKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PFVDYPYNQCAVVGNGGILNKSLCGAEIDKSDFVFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ostei; Euteleostei; Neoteleostei;
ercomorpha; Tetraodontiformes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 niata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                o rerio.
gi membrane; IEA.
euraminate alpha-2,8-sialylt.
cid glycosylation; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
Delannoy P., Oriol R.;
d sialyltransferase-related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      y ob/cwi063;
, Delannoy P., Oriol R.;
and sialyltransferase-related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a V (EC 2.4.99.8) (Fragment)
                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 343;
                                                                                                                                                                                                                                                                                                                                                                                                                                          e 728; DB 2; Length 34
. No. 1.5e-48;
ismatches 113; Indele
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NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                 Local, Similarity
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii, Neopterygii, Teleostei; Netleleostei; Neoteleostei;
Acanthomorpha; Acanthopterygii; Percomorpha; Atherinomorpha;
Beloniformes; Adrianichthyidae; Oryzinae; Oryzias.
                             EMBL, AJ715548; CAG29387.1; -; mRNA.
Ensembl; GSTENG00012296001; Tetraodon nigroviridis.
Co; Go:0030173; C:integral to Golgi membrane; IEA.
GO; GO:0003828; F:alpha-N-acetylneuraminate alpha-2,8-sialylt.
GO; GO:0006486; F:protein amino acid glycosylation; IEA.
InterPro; IPR001675; Glyco trans 29.
Elam; PP00777; Glyco trans 29.
Glycosyltransferase; Transferase.
NON_TER
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Mestrovic N., Randig O., Abad P., Plohl M., Castagnone-Sereno P.;
"Conserved and variable domains in satellite DNAs of mitotic
parthenogenetic root-knot nematode species.";
Gene 362:44-50(2005).
                                                                                                                                                                                                            ;
                                                                                                                                                                                   Length 379;
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Harduin-Lepers A., Mollicone R., Delannoy P., Oriol R.;
"The animal slalyltransferases and sialyltransferase-related
                                                                                                                                                                                                           Indels
                                                                                                                                                          379 AA; 43893 MW; 4A47CC391C61CD23 CRC64;
                                                                                                                                                                                   34.6%; Score 727.5; DB 2; 42.2%; Pred. No. 1.9e-48;
                                                                                                                                                                                                           61; Mismatches 120;
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Copyrighted by the UniProt Consortium, Distributed under the Creative Commons
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Glycobiology 15:805-817(2005).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           364 HMHTRĞİVNVHTGRÇ 378
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QSK019;
                                                                                                                                                                                                          Matches 133; Conservative
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bostei; Buteleostei; Neoteleostei;
Percomorpha; Tetraodontiformes;
akifugu.
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                                                                                                                                                                                                                                                                                                                                                                           34.5%; Score 725.5; DB 2; Length 378; 41.6%; Pred. No. 2.7e-48; ive 62; Asmatches 121; Indels 1
                                                                        EMBL; AJ871609; CAI39652.1; -; trNA.
GO; GO:0030173; C:integral to degim membrane; IEA.
GO; GO:0006486; Piproceln amino acid glycosylation; InterPro; IPR001675; Glyco-transfenges
InterPro; IPR0101675; Glyco-transfenges
InterPro; IPR012163; Sialvi transfenges
PRESP; PRSF005557; Sialvi transfenges
PRESP; PRSF005577; Sialvi transfenges
RESP; PRSF005577; Sialvi transfenges
Glycosyltransferase; Transferase
SEQUENCE 378 AA; 44107 MW; S732DCGC92CA3CB CRC64;
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07-JUN-2005, sequence version 1.
07-FEB-2006, entry version 3.
4 Dipa-2, 8-sialyltransferase (Fragment).
Name=st83:a v,
Fugu rubripes (Japanese pufferfish) (Takifugu rubripes).
Eukaryota; Metazoa; Chordata; Canniata; Vertebrata; Bute Actinopterygii; Neopterygii; Teleostei; Buteleostei; Neo Acanthomorpha; Acanthopterygii; Percamonorpha; Tetraodontidae; Tetraodontidae; Takifugu.
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GenBank/DDBJ databases.
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GO; GO:0030173; C:integral to Gogi membrane; IEA.
GO; GO:0008373; F:sialyltransferase activity; IEA.
GO; GO:0006486; P:proctein amino scid glycosylation; IEA.
InterPro; IPR012163; Sialyl_tranf.
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YENSSVVLPAFYNTRNTDVSFRV
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Submitted (MAY-2004) to the EMBI
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Q50J40;
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NCBI_TaxID=7955;
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Harduin-Lepers A., Mollicone R., Delannoy P., Oriol R.;
"The animal sialyltransferases and sialyltransferase-related genes:
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Eukaryota, Metazoa, Chordata, Craniata, Vertebrata; Euteleostomi;
Eukaryota, Neopterygli, Teleostei, Euteleostei, Neoteleostei,
Acanthomorpha, Acanthopterygli, Percomorpha; Tetraodontiformes;
Tetradontoidea, Tetraodontidae, Takifugu.
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                                                                                        Length 372;
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Name=siat 8E;
                                                                                      Query Match 34.2%; Score 719.5; DB 2; Length Best Local Similarity 41.9%; Pred. No. 7.7e-48; Matches 132; Conservative 61; Mismatches 121; Indels
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372 AA; 42962 MW; 74842EC22385F239 CRC64;
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Pfam; PF00777; Glyco_transf_29; 1.
PIRSF; PIRSF005557; Slalyl_trans; 1.
Glycosyltransferase; Transferase.
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NON TER 372 372
SEQÜENCE 372 AA; 42962 MW; 74842
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07-FEB-2006, entry version 10.
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mmons Attribution-NoDerivs License
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niata; Vertebrata; Buteleostomi;
ostei; Ostariophysi; Cypriniformes;
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Delannoy P., Oriol R.;
d sialyltransferase-related genes:
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Length 379;
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. No. 1.5e-47;
ismatches 116; Indels 25
                                                                           Indels
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gi membrane; IEA.
Score 719.5; DB 2;
Pref. No. 7.9e-48;
1; Hsmatches 121;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Copyrighted by the Uniprot Conscibing Distributed under the Creative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      05-JUL-2004, integrated into Uni
05-JUL-2004, sequence version 1.
07-FEB-2006, entry version 10.
Alpha-2,8-sialyltransferase ST88
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Brakaryota; Metazoa; Chordata; C;
Actinopterygli; Neopterygli; Tel
Cyprinidae; Danio.
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124 TTKRNTPAGTKLRYEVDTSGILE
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Harduin-Lepers A., Mollicone R.,
"The animal sialyltransferases a
                                                                                                                                                                                                                                                                                                        141 VSQNNTPVGTNMSYEVESKKHIR
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        244 YENSSAVLPAFYNTRNTDVSFRV
                                                                                                                                                      81 CKDLQYSLNSLSNKTRRYSEDDY
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356 AA; 40331 MW;
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34.2%;
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QEKBZ7;
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Matches 138; Conservative
   Query Match
Best Local Similarity 41.9
Matches 132; Conservative
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Search completed: May 26, 2006, 23:30:46 Job time : 306 secs

GenCore version 5.1.8 Copyright (c) 1993 - 2006 Biocceleration Ltd.

- protein search, using sw model OM protein May 26, 2006, 23:26:00 ; Search time 40 Seconds (without alignments) 957.357 Million cell updates/sec Run on:

US-10-501-930-1 2102 1 MRSGGTLFALIGSLWLLLLL.....MLQLHWRGILKLQFSKCETA 398 Title: Perfect score:

Scoring table: Sequence:

283416 seqs, 96216763 residues BLOSUM62 Gapop 10.0 , Gapext 0.5 Searched:

283416 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database :

PIR 80:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

	Description	alpha-N-acetylneur	GM3 alpha-2,8-sial	alpha-N-acetylneur	alpha-N-acetylneur	CMP-NeuAc-GM3 alph	alpha-2,8-sialytra	polysialyltransfer	alpha-N-acetylneur	alpha-2,8-polysial	sialyltransferase	sialyltransferase	N-glycan alpha 2,8	STX protein - huma	alpha-N-acetylgala	alpha-N-acetylgala	Gal-beta-1,3GalNac	Gal beta 1,3GalNAc	beta-galactoside a	beta-galactoside a	Gal beta-1, 3GalNA	beta-galactoside a	Gal beta 1,4 GlcNA	gal-beta(1-3/1-4)G	beta-galactoside a	beta-galactoside a	beta-galactoside a	alpha-2,3-sialyltr	beta-galactoside a '	protein T23G18.14	
SUMMARIES	ρ	JC5195	JC4973	A54032	JC5600	JC6321	A56950	S52425	JC4224	159403	139169	A46727	I48686	B54898	A49880	JC7248	S55675	A45073	S36824	154229	A54871	B54420	S41114	A48715	JC5251	A54420	A41734	A49879	901	G86216	
	DB	. 7	~	7	7	~	7	~	~	~	N	~	~	~	N	~	7	Ŋ	~	~	~	~	~	~	7	7	7	~	~	7	
	Length	342	359	356	376	380	380	359	359	359	375	375	375	222	266								413	329	350	350	406	332	524	398	
	& Query Match	33.4	33.3		32.2	ä	22.4	20.0	19.9	19.8	19.4	19.2	18.8	16.8	10.4	10.1	9.6	9.5	9.3	9.1	9.0	8.6	8.2	8.1	8.1	8.0	7.9	7.9	7.8	7.6	
	Score	702	701	700	677	474	470	419.5	418.5	416.5	408.5	403.5	395.5	352.5	218.5	212	208.5	199.5	196	191.5	188.5	180.5	171.5	170.5	170.5	169	166	165.5	164	160	
	Result No.		7	n	4	S	9	7	œ	O	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	56	27	28	29	

219 TGSASKDVGSKTNLVTVNPSIITLKYQNLKEKKAQFLEDISTYGDAFLLLPAFSYRANTG 278

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279 ISFKVYQTIKESKMRQKVIFFHARYIRHLALFWRTKGVTAYRLSTGLMIASVAVELCENV 338

339 KLYGFWPFSKTIEDTPLSHHYYT 276 SIXGFWPFSVNMQGBPISHHYYMWVLPFSGFHAMPEBFLQLWYLHKMGALRMQLDPCE 333

RESULT 2 JC4973

99 SEDDYLOTITNIORCPWNROAR TEDNFRAKLASCCDAIQDFVVSQNNTPVGTNMSYEVES 158

Gaps

7

Length 342;

Query Match 33.4%; Scare 702; DB 2; Length 34 Best Local Similarity 43.0%; Prof. No. 1.5e-48; Matches 128; Conservative 65; Mismatches 103; Indels

218

PYNOCAVVGNGGILNKSLCGARIDKSDFVFRCNLPPI

159 KKHIPIRENIFHMFPVSQPFVD

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beta-galactoside a Gal beta 1,3(4)Glc Gal beta 1,3(4)Glc Gal beta 1,3(4)Glc lactosylceramide a hypothetical prote hypothetical prote multidrug resistan hypothetical prote TWA 1,9 [imported] ATP-dependent Clp	NAM DOLYMERSHE LEF DNA-directed RNA p DNA-directed RNA p DNA-directed RNA p Bite-specific DNA- LIGNMENTS	<pre>ialyltransferase (BC 2.4.99.8) - rat rat) n 27-Feb-1997 #text_change 05-Oct-2004 H.; Nagai, Y.; Sanai, Y.</pre>	pression of alpha2,8-sialyltransferase (GD3 syntha. 7534; РМІD:8982871	NIPARC:UPI0000167AA8; DDBJ:D45255; NID:g1841315; P. for the ganglioside pattern in tissues. nsferase predicted <twm> // Agraphic (Covalent) #status predicted</twm>
				The transfer of the transfer o
A28 A445 UNNO 1440 D360 B346 C122	XXE XXE	2,8 cway risi	1d ex	nsible syltrestatu
00000000000000000000000000000000000000	7 11 17 11	ha-2 (No) rev	g p g D g D g D	7055 ase cosy f ast f
1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1342 1342 325	te alp syntha gricus guence	clonin 195; M	PROT:P7(is responsed by glassing form) in glycambrane form by motification of the form) in motification of the stressing sites:
77777777777777777777777777777777777777	444	uramina s: GD3 B norve 997 #se 195 Nara, %	eculari er: JCș n 195 inary mRNA	es: UNI enzyme ialyltz oprotei transme sialy
154 1154 1154 1154 1102 101 101 101 101 101 101 101 101 10	99 89 89 5.7	RESULT 1 JC5195 alpha-Nacetylneuraminate alpha-2,8- NjAlternate names: GD3 synthase CjSpecies: Rattus norvegicus (Norway CjBate: 20-Reb-1997 #sequence_revisi CjAccession: JC5195 R;Watanabe, Y; Nara, K; Takahashi, R;Watanabe, Y; Nara, K; Takahashi,	A.Title: The molecular (2.0nm) and established the molecular preliminary A.Molecular (2.0nm) and established the molecular (2.0nm) and established	A,Cross-references: UNIPROT:P70554; C;Comment: This enzyme is responsibl C;Superfamily: Stalyltransferas C;Reywords: glycoprotein; glycosyltr F;12-34/Domain: transmembrane #statu F;120-168/Region: sialyl motif F;288-280/Region: sialyl motif F;56,104,199,230/Binding site: carbo
0 11 0 10 10 10 10 10 10 10 10 10 10 10	4 4 4 4. 3 W 4 ሲ	RESULT 1 JC5195 alpha-N- N;Altern C;Specie C;Date: C;Access R;Watana	A; Title: A; Refere A; Conten A; Access A; Access A; Access A; Access A; Access	A; Cross-C; Commen C; Commen C; Superf C; Keywor F; 13-34/ F; 120-16 F; 258-28

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A;Cross-references: UNIPARC:UPI00001976C8; GB:D26360; NID:g536879; PIDN:BAA05391.1; PID: C;Genetics:
A;Gene: GDB:SIAT8
A;Cross-references: GDB:370916; OMIM 601123
A;Map posttion: 12p12.1-12p11.2
C;Superfamily: slalyltransferase
C;Keywords: glycosyltransferase; transmembrane protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 alpha.N-acetylneuraminate alpha-2,8-exalyltransferase (EC 2.4.99.8) - human C;Species: Homo sapiens (man) C;Scoot C;Accession: U;Scoot C;Accession: U;Scoot C;Accession: V;S;Do, S;Kim, C;H;Kim, S;K;Ice, Y;C.
R;Kim, Y,J;Kim, K.S.;Do, S;Kim, C;H;Kim, S;K;Ice, Y;C.
A;Title: Molecular C;Comunu. 235, 377-330, 1997
A;Title: Molecular C;Conton and expression of human alpha-2,8-sialyltransferase (hST8Sia A;Reference number: UC5600; MUID:9734494; PMID:9199191
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DNFRAKLASCCDAIQDFVVSQNNTPVGTNMSYEVES 158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KYONLKEKKAQFLEDISTYGDAFLLLPAFSYRANTG 278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          YLRHLALFWRTKGVTAYRLSTGLMIASVAVELCENV 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OFLEDISTYGDAFLLLPAFSYRANTGISFKVYQTLK 288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MLPKHGFHQMPKEYSQMLQLHMRGILKLQFSKCE 396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     291 AIYGEWPFGVINHEQPISHHYYTHVLPFSGFHAMPEBELQLWYLHKIGALRMQLDPCE 348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | | | :: | | | | | ::: |:|:| :| :| | | | ARAFRKQMEDCCDPAHLFAMTKMNSPMGKSMWYDGEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CDAIQDFVVSQNNTPVGTNMSYEVESKKHIPIRENI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .59 KKHIPIRENIFHMFPVSQPFVD1 YNQCAVVGNGGILNKSLCGAEIDKSDFVFRCNLPPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CNAPAPLFTTOKNTPLGTKLKYBVDTSGIYHINOEI
                                                                                                                                                                                                                                                                                                  Length 356;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 376;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 677; DB 2; Length 37
Pref. No. 1.7e-46;
dismatches 108; Indels
                                                                                                                                                                                                                                                                                                                                                                  Hamatches 107;
                                                                                                                                                                                                                                                                                               , DB 2;
2.3e-48;
                                                                                                                                                                                                                                                                                               re 700;
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                                                                                                                                                                                                                                                                                               33.3%; Score 43.6%; Pred
                                                                                                                                                                                                                                                                                                                                                                                                                                     99 SEDDYLOTITNIORCPWNROAER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     53 NEKEIVÖGVLQ-QGTAWRRNQTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          87 SLOMCKWAMNISEANOFKSTLSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FHMFPVSQPFVDYPYNQCAVVGN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KTNLVTVNBSIITLKYQNLKEK
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             339 KLYGFWPFSKTIEDTPLSHHYYU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          109 NIORCPWNROAEEYDNFRAKLAS
                                                                                                                                                                                                                                                                                                                                                                  59;
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A;Residues: 1-376 <KIM>
A;Cross-references: UNIPROT:015466;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A, Accession: JC5600
A, Status: nucleic acid sequence not
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al Similarity 43.9%;
126; Conservative 53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C;Comment: This enzyme catalyzes
or the production of disialyl or
C;Superfamily: sialyltransferase
C;Keywords: glycosyltransferase
                                                                                                                                                                                                                                                                                                                                  Best Local Similarity ....
Matches 130; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Experimental source: brain
<RE2>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
A, Residues: 16-356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local S:
Matches 126
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Alpha-A-acetylneuraminate alpha-2,8-sialyltransferase (EC 2.4.99.8) - human NyAlternate names: G-D3 synthase; G-m3-specific alpha-2.8-sialyltransferase; ganglioside C;Species: Homo sapiens (man) C;Date: 02-Aug-1994 #sequence revision 02-Aug-1994 #text_change 05-Oct-2004 C;Accession: A54022, 139330; 159317 S;Accession: A54022, 139330; 159317 S;Accession: A54022, 13930; 159317 A; Kurata, K.; Kurata, K
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Residues: 1-356 <SAS>
A;Residues: 1-356 <SAS>
A;Cross-references: UNIPROT:Q92185; UNIPARC:UPI000013596F; GB:X77922; NID:G510987; PIDN: R;Harsquefi, M.; Yamashiro, S.; Yamamoto, A.; Furukawa, K.; Takamiya, K.; Lloyd, K.O.; S Proc. Natl. Act. Act. 11. Act. Sci. US. 31, 10455-10459, 1994
A;Title: Isolation of GD3 synthase gene by expression cloning of GM3 alpha-2,8-sialyltra
A;Reference number: 139930; MUID:95024133; PMID:7937974
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              alp
                                                                                                                                                                                                                                                                                                                                                              A;Residues: 1-359 <ZEN>
A;Cross-references: UNIPROT:P70554; UNIPARC:UP100000E8795; GB:U53883; NID:g1628556; PID:A;Experimental source: brain
C;Comment: This enzyme is a key branching-point enzyme which regulates the synthesis of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PID
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A; Residues: 16-356 - RRES-
A; Cross-treferences: UNIPARC: UPI00001576C8; GB:L32867; NID:g662253; PIDN:AAA62366.1;
A; Cross-treferences: UNIPARC: UPI00001576C8; GB:L32867; NID:g662253; PIDN:AAA62366.1;
B; Nara, K.; Watanabe, Y.; Maruyama, K.; Kasahara, K.; Nagai, Y.; Sanai, Y.
Proc. Natl. Acad. Sci. US.A. 91, 7952-7956, 1994
PA; Title: Expression cloning of a CMP-Neuda: Neuda alpha2-3Gal betal-4Glc betal-1' Cer
A; Reference number: 159317; MUID:94336665; PMID:8058740
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SSEYTRDVGSKTQLVTANPSIIRQRFENLLMSRKKFVDNMKIYNHSYIYMPAFSMKTGTE 229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEDDYLQTITNIQRCPWNRQAEEYDNFRAKLASCCDAIQDFVVSQNNTPVGTNMSYEVES 158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGSASKDVGSKTNLVTVNPSIITLKYQNLKEKKAQFLEDISTYGDAFLLLPAFSYRANTG 278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       279 ISFKVYQTLKESKWRQKVLFFHPRYLRHLALFWRTKGVTAYRLSTGLMIASVAVELCENV 338
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                                                     C;Species: Rattus norvegicus (Norway rat)
C;Date: 31-Dec-1996 #sequence_revision 31-Dec-1996 #text_change 05-Oct-2004
C;Accession: JC4973
R;Zeng, G;, Gao, L; Ariga, T; Yu, R.K.
Biochem. Biophys. Res. Commun. 226, 319-323, 1996
A;Title: Molecular cloning of cDNA for rat brain GD3-synthase.
A;Reference number: JC4973; MUID:96400257; PMID:8806633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KKHI PIRENI FHMFPVSQPFVDYPYNQCAVVGNGTLINKSLCGAEIDKSDFVFRCNLPPI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            33.3%; Score 701; DB 2; Length 359; 43.0%; Pred. No. 1.9e-48; tive 65; Mismatches 103; Indels
   rat
alpha-2,8-sialyltransferase (EC 2.4.99.-)
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A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C,Comment: This enzyme is a key r
C,Superfamily: sialyltransferase
                                   N; Alternate names: GD3 synthase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Keywords: glycosyltransferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
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Matches 128; Conserv
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A;Cross-references: UNIPROT:064690; UNIPARC:UPI000011D7P8; GB:Z46801; NID:9735953; PIDN:
C;Superfamily: sialyltransferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           polysialyltransferase-1 - Chinese hauter
Cispecies Cricetulus griseus (Chinese hamster)
Cipate: 14-Unl-1995 #sequence_revision 21-Unl-1995 #text_change 05-Oct-2004
Cipate: 14-Unl-1995 #sequence_revision 21-Unl-1995 #text_change 05-Oct-2004
Cipate: 14-Unl-1995 #sequence_revision 21-Unl-1995 #text_change 05-Oct-2004
Cipate: 1957 Response 1995 Representation 0. Comman, 0.; Frosch, M.; Gerardy-Schahn, Nature 373, 715-718, 1995
A.Title: Molecular characterization 0. Comman, 0.; Frosch, M.; Gerardy-Schahn, A;Reference number: SS2425; MUD:9518-675; PMID:7854457
                                                                                                                                                                                                                                               102 QEILQHVDVIKNPSLIKSSVRICHLAHYDYSSHKYVPSISNNPRSLLPDVSPINNKRYNV 161
                                                                                                                                                                                                                                                                                                                                VSRCNFAP-TEAFHKDVGRKTNLTTFNPSILEKYYN 220
                                                                                                                                                                                                                                                                                                                                                                            LPAFSYRANTGISFKVYQTLKESKMRQKVLFFHP-R 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QAEEYDNFRAKLASCCDAIQDFVVSQNNTPVGTNMS 153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NSSLVLEIRKNILRFLDAERDVSVVKSSFKPGDVIH 109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      229 MVKGGEKHVEWVNALILKOKLKANTAYPSLRLIHAVRGYWLTNKVPIKRPSTGLLMYTLA 288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SHHYYDNMLPKHGF-----HQMPKEYSQMLQLHMR 385
                                                                                                                                                                                                                                                                                                                                                                                                      INKTRRYSEDDYLQTITNIQRCP--WNRQAEEYDNFR
                                                                                                                                                             THE------TOEKPSKWITFNRIAFLHOR
                                                                                                                                                                                                         NMSYEVESKICHI - PIRENI FHMFPVSOPFVDYPYNO
                                                                                                                                                                                                                                                                                          /FRCNLPPITGSASKDVGSKTNLVTVNPSIITLKYQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VPRTRNSTYLDEKTTQIT---EKCKDLQYSLNSLSN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VLFFHPRYLRHLALFWRTKGVTAYRLSTGLMIASVA
                                                                                                                                                                                                                                                                                                                                                                                                                                                               IASVAVELCENVKLYGFWPFS---KTIEDTPLSHHY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          154 YEVESKKHIPIRENIFHMFPVSCHFVDYPYNOCAVVGNGGILNKSLCGABIDKSDFVFRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SIITLKYQNLKEK--KAQFLEDISTYGDAFLLLPAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 419.5; DB 2; Length 359;
Pred. No. 6.7e-26;
B; Mismatches 160; Indels 25
                                       DB 2; Length 380;
                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MLQLHMRGILKLQFSKC 395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          YDKKGTKFTTKWQESHQLPAEP@LYRMHGEGLTKLTLSHC 379
                                                                              ismatches
                                       22.4%; Score 470;
33.1%; Pred. No. 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20.0%; Sc.
28.9%; Pre
                                                                                                                                                                                                                                                                                                                                                                                                        | | : | | : | | 221 NLLTIODRNNFFLSLKKLDGAII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    332 VELCENVKLYGFWPFSKTIEDTE
                                                                                                                        69 YLDEKTTQITEKCKDLQYSLNSD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NLPPITGSASKDVGSKTNLVTVN
                                                                                                                                                                                                         127 AKLASCCDAIQDFVVSQNNTPVC
                                                                                                                                                                                                                                                                                                                                    162 CAVVGNSGILTGSQCGQEIDKSI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         94 KTRRYSEDDYLQTITNIQRCPWN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                54 KIIRKAGSTIFQ--HSVQ--GWF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                272 SYRANTGISFKVYQTLKESKMRQ
                                                                                                                                                                                                                                                                                          CAVVGNGGILNKSLCGAEIDKS
                                                                                                                                                                                                                                                                                                                                                                              NLK -- EKKAQPLEDISTYGDAPI
                                                                                                                                                FLDQSFVPIT-----NSI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 YLRHLALFWRTKGVTAYRLSTGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  YDNMLPK----HGPHQMPKEYS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       37 MEGSREDTSGTSAALKTLWSPT
                                                                                 58;
C;Keywords: transmembrane protein
                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                107; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local Similarity
Matches 107; Conserva
                                                Best Local Similarity
Matches 113; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-359 <ECK>
                                                                                                                                                                                                                                                                                                                                                                                246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 303
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                                                                                                                                                                                                                                                                                             186
                                         Query Match
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                                                                                                                                                                                                                                                              R;Zeng, G.; Gao, L.; Yu, R.K.
Gene 187, 131-134, 1997
A;Title: Cloning of the cDNA coding for rat brain CMP-NeuAc:GD3 alpha2-8 sialyltransfera
A;Reference number: UC6321; MUID:97225806; PMID:9073076
A;Accession: UC6321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Experimental source: brain
| Comment: This enzyme is one of the sialyltransferases and adds one more alpha-2,8-link
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     fro
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Superfamily: sialyltransferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    276
DFESPQAVYYFHPQYLVNVSRYWLSLGVRAKRISTGLILVTAALELCEEVHLFGFWAFPM 326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               107 ITN----IQRCP--WNRQAESYDNFRAKLASCCDAIQDFVVSQNNTPVGTNMSYEVESK 159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ITNSLTHELQEKPSKWIFNRTAFLHQRQEILQHVDVIKNFSLTKNSVRIGQLIHYDYSSH 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EEIHLYGFWPFGFDPNTREDLP--YHYYDKKGTKFTTKWQESHQLDAEFQLLYRMHGEGL 371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         194 TEAFHKÖVGKKTINLTTFINPSILEKYYNNILTTIQDRNNFFLSLKKLDGAILWIPAFFFHTS 253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ENVKLYGFWPFS---KTIEDTPLSHHYYDNMLPK-----HGFHQMPKEYSQMLQLHMRGI 387
                                                                                                                                                                                                                             C;Species: Rattus norvegicus (Norway rat)
C;Date: 14-May_1998 #sequence_revision 29-May-1998 #text_change 05-Oct-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C;Date: 18-Aug-1995 #sequence_revision 18-Aug-1995 #text_change 05-Oct-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   160 KHI-PIRENIFHMFPVSQPFVDYPYNQCAVVGNGGILNKSLCGAEIDKSDFVFRCNLPPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGSASKDVGSKTNLVTVNPSIITLKYQNLK--EKKAQFLEDISTYGDAFLLLPAFSYRAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGISFKVYQTLKESKWRQKVLFFHP-RYLRHLALFWRTKGVTAYRLSTGLMIASVAVELC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      22; Gaps
                                                                                                                                                                                      CMP-NeuAc-GM3 alpha2-8 sialyltransferase (EC 2.4.99.-) [imported] - rat
N/Alternate names: GD3-synthase; GM3-synthase
                                                                                                                                                                                                                                                                                                                                                                                                    A;Molecule type: mRNA
A;Residues: 1-380 <ZEN>
A;Cross-references: UNIPROT:P97877; UNIPARC:UPI0000178A2A; GB:U55938
                                       349 TIEDTPLSHHYYDNMLPKHGPHQMPKEYSQMLQLHWRGILKLQFSKC 395
                                                                            NPSGLYITHHYYDNVKPRPGGHAMPSEIFNFLHLHSRGILRVHTGTC 373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match

22.5%; Score 474; DB 2; Length 380;
Best Local Similarity 35.7%; Pred. No. 3.1e-30;
Matches 110; Conservative 52; Mismatches 124; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Status: preliminary; not compared with conceptual translation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Superfamily: sialyltransferase
C;Keywords: glycosyltransferase
F;18-33/Domain: transmembrane #status predicted <TWM>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          alpha-2,8-sialytransferase III - mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C; Species: Mus musculus (house mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LKLQFSKC 395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     372 TKLTLSHC 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Residues: 1-380 <YOS>
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A;Gross-references: UNIPROT:092186; UNIPARC:UPI0000135970; EMBL:U33551; NID:g995770; PII C;Superfamily: sialyltransferase
                                                                                                                                                     GB:L41680; NID:g945220; PIDN:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    faialic acid expression in mammalian cells.
1684; PMID:7559389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   YYDNMLPKHGF-----HOMPKEYSQMLQLHMRGIL 388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EYDNFRAKLASCCDAIQDFVVSQNNTPVGTNMSYEV 156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ESKKHIPIRENIFHMFPVSQPFT YPYNQCAVVGNGGILNKSLCGAEIDKSDFVFRCNLP 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TLKYQNLKEK--KAQFLEDISTYGDAFLLLPAFSYR 274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GRAFGGFRNESDREKFVHRLSMLNDSVLWIPAFMVK 231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FHPRYLRHLALFWRTKGVTAYRLSTGLMIASVAVEL 334
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VPRTRNSTYLDEKTTQITEKCKDLQYSLNSLSNKTR
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                                                                                                                                                                                                                                                                                                                                        e 416.5; DB 2; Length
1. No. 1.2e-25;
dismatches 166; Indels
                                                                                                                                                     ILPARC: UPI0000135973;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Roth, J.; Lowe, J.B.
205; PMID:7624364
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Pref. No. 5.4e-25;
4; dismatches 140;
                         A;Accession: 159403
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
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C;Species: Homo sapiens (man)
C;Date: 24-May-1996 #sequence_revision 24
C;Accession: 133169
R;Scheidegger, B.P.; Sternberg, L.R.; Rot
J. Biol. Chem. 270, 22685-22688, 1995
A;Title: A human STX cDNA confers polysis
A;Reference number: 139169; WUID:96028684
A;Accession: 139169
                                                                                                                                                                                                                                                                                                                                              Scor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 232 GGEKHVEWYNALILKNKLKVRTA
   A;Reference number: I59403; MUID:9535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 275 ANTGISFKVYQTLKESKMRQKVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 41 IRSAVNSLHSKSNR-----AEV
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  97 RYSEDDYLQTITNIQRCPWNRQP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   217 PITGSASKDVGSKTNLVTVNPSI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CENVKLYGFWPFSKTIEDTPLSH
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                      37 MEGSREDTSGTSAALKTLWSPT
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                                                                                                                                                                                                                                                                                                                                                                                                         78;
                                                                                                                        A;Residues: 1-359 <RES;
A;Cross-references: UNIPROT:Q92187;
C;Genetics:
A;Genetics:
A;Genetics:
A;Genetics:
C;Superfamily: sialyltransferase
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                                                                                                                                                                                                                                                                                                                                           Query Match 19.8%;
Best Local Similarity 28.3%;
Matches 104; Conservative 7
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Best Local Similarity 28.6
Matches 99; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 389 KLQFSKC 395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        350 KLTTGKC 356
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A;Residues: 1-375 <RES>
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C;Species: Homo sapiens (man)
C;Date: 31-May-1996 #sequence_revision 31-May-1996 #text_change 05-Oct-2004
C;Accession: I59403
R;Nakayama, J; Fukuda, M.N.; Fredette, B.; Ranscht, B.; Fukuda, M.
Proc. Natl. Acad. Sci. U.S.A. 92, 7031-7035, 1995
A;Title: Expression cloning of a human polysialyltransferase that forms the polysialylat
                                                                                                                                                                                                                                                                                                                                                                                                     C;Accession: JC4224
R;Yoshida, Y.; Kojima, N.; Tsuji, S.
Biochem. 118, 658-664, 1995
A;Title: Molecular cloning and characterization of a third type of N-glycan alpha 2,8-si
A;Reference number: JC4224; MUID:96115941; PMID:8690732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A,Accession: JC4224
A,Molecule type: mRNA
A,Rosidues: 1-359 <20S>
A,Cross-references: UNIPROT:Q64692; UNIPARC:UPI0000000712; EMBL:X86000; NID:g2665331; PI
A,Experimental source: lung
C,Comment: This enzyme exhibits activity specific toward sialylated glycoproteins. This
C,Superfamily: sialyltransferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Experimental source: lung
Comment: This enzyme exhibits activity specific toward sialylated glycoproteins. This
Comment: This enzyme exhibits activity specific toward sialylated glycoproteins. This
Comment: This enzyme exhibits as a second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second 
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     94 KTRRYSEDDYLQTITNIORCPWNROAEEYDNFRAKLASCCDAIODFVVSONNTPVGTNMS 153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        271
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        332 VELCENVICINGEWPFSKTIEDTPLSHHYYDNMLPKHGF-----HOMPKEYSOMLOLHMR 385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
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                                                                                                                                                                                                                                                                                                                       - mouse
                                                                                                                                                                                                                                                                                                                                                     C.Species: Mus musculus (house mouse)
C.Date: 19-Oct-1995 #sequence_revision 08-Feb-1996 #text_change 05-Oct-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         37 MEGSREDISGISAALKILWSPITPVPRIRNSTYLDEKTIQIT---EKCKDLQYSLNSLSN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   154 YEVESKKHIPIRENIFHMFPVSQPFVDYPYNQCAVVGNGGILNKSLCGABIDKSDFVFRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        214 NLPPITGSASKDVGSKTNLVTVNPSIITLKYQNLKEK--KAQFLEDISTYGDAFLLLPAF
                                                                                                                                                                                                                                                                                                                       alpha-N-acetylneuraminate alpha-2,8-sialyltransferase (EC 2.4.99.8)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 19.9%; Score 418.5; DB 2; Length Best Local Similarity 28.9%; Pred. No. 8.1e-26; Matches 107; Conservative 77; Mismatches 161; Indels
                                                                                                 386 GILKLOFSKC 395
                                                                                                                                                               347 GALKLTTGKC 356
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NIPARC:UPI0000029A23; EMBL:X83562; NID:91478203; P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTX protein - human (fragment)
C;Species: Homo sapiens (man)
C;Species: Homo sapiens (man)
C;Species: Homo sapiens (man)
C;Accession: B54898
R;Kitagawa, H.; Paulson, J.C.
J. Biol. Chem. 269, 17872-17878, 199,
A;Title: Differential expression of the sialyltransferase genes in human tissues.
A;Accession: B54898
A;Accession: B54898
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                                                                                                                                                                                                                                                                                                                                                                                                                                      247
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KGDAFLLLPAFSYRANTGISFKVYQTLKESKMRQKVL 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -GSILWIPAFMARGGKERVEWVNELILKHHVNVRTA 116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STGLMIASVAVELCENVKLYGFWPFSKTIEDTPLSH 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----EDDYLQTITNIQ--RCPWNRQAEEYDNFRA
                                                                                                                                                                                                                                                                                                       41 IRSAVNSLESKSNRAEVVINGSOPPAVADRSNESLK--HNIQPASSKWRHNQTLSLRIRK
                                                                                                                                                                                                                                                                                                                                                    MSYEVESKKHIPIRENIFHMFPVSQPFVDYPYNQCA
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LWIPAFWARGGKERVEWVNALILKHHVNVRTAYPSLR
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 222;
                                                                                                                                                                         Length 375;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 395.5; DB 2; Length Pred. No. 6e-24; Mismatches 144; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QLHMRGILKLOFSKCETA 398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Reference number: I48686; MUID:95140406; PMID:7875291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 352.5; DB 2;
Prof. No. 8e-21;
2; Mismatches 88;
                      A, Accession: 148686
A, Status: preliminary; translated from GB/EMBL/DDBJ
A, Molecule type: mRNB;
A, Residues: 1-375 - RRBS;
A, Crossidues: UNIPROT:035696; UNIPARC:UP10000
C, Superfamily: sialyltransferase
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                                                                                                                                                                                                                                                                                                                                                    128 KLASCCDAIODFVVSQNNTPVG
                                                                                                                                                                                                                                                                                                                                                                                                                                          188 VVGNGGILNKSLCGAEIDKSDF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     363 MLPKHGF-----HOMPKEYSON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 FOTCALVGNSGVLLNSGYGQEI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             117 YPSLRLLHAVRGYWLTNKVHIK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             183 YNOCAVVGNGGILNKSLCGAEI
                                                                                                                                                                                                                    63;
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A;Residues: 1-222 -KIT>
A;Cross-references: UNIPROT:(992186;
A;Cross-references: UNIPROT:(992186;
C;Superfamily: sialyltransferase
                                                                                                                                                                                                                                                            84 LQYSLNSLSNKTRRYS-----
                                                                                                                                                                           18.8%;
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Best Local Similarity 29.2*
Matches 100; Conservative
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Matches
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FEBS Lett. 360, 1-4, 1995
A;Title: Enzymatic activity of a developmentally regulated member of the sialyltransfera
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Cross-references: UNIPROT:Q07977; UNIPARC:UPI0000135971; GB:L13445; NID:g310229; PIDN:
C;Superfamily: sialyltransferase
C;Keywords: glycosyltransferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    the
                                                                                                                                                                                                                                                                                                                                                                                                                 sialyltransferase (EC 2.4.99.-), brain, precursor - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 03-May-1994 #sequence_revision 03-May-1994 #text_change 05-Oct-2004
C;Date: 03-May-1994 #sequence_revision 03-May-1994 #text_change 05-Oct-2004
C;Accession: A46727
R;Livingston, B.D.; Paulson, J.C.
J. Biol. Chem. 268, 11504-11507, 1993
A;Title: Polymarase chain reaction cloning of a developmentally regulated member of A;Reference number: A46727; MUID:93280099; PMID:7685014
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                                                                                          244 YQNL----KEKKAQFLEDISTYGDAFLLLPAFSYRANTGISFKVYQTLKESKMRQKVLF 298
                                                                                                                                                                                                    271 PSLRLLHAVRGYMLTINKVHIKRPITGLLMYTLATRFCKQIYLYGFWFFLDQNQNPVKYH 330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       184 NQCAVVGNGGILNKSLCGAEIDKSDFVFRCNLPPITGSASKDVGSKTNLVTVNPSIITLK 243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           244 YONL----KEKKAQFLEDISTYGDAFLLLPAFSYRANTGISFKVYQTLKESKMRQKVLF 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 299 FHPRYLRHLALFWRIKGVTAYRLSTGLMIASVAVELCENVKLYGFWPFSKTIEDTPLSHH 358
                                                                                                                                                                             299 FHPRYLRHLALFWRTKGVTAYRLSTGLMIASVAVELCENVKLYGFWPFSKTIEDTFLSHH 358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            --- WNROAEEYD 123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  124 NFRAKCASCCDAIQDFVVSQNNTPVGTNMSYEVESKKHIPIRENIFHMFPVSQPFVDYPY 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NQCAVVGNGGILNKSLCGAEIDKSDFVFRCNLPPITGSASKDVGSKTNLVTVNPSIITLK 243
                                                                                                                214 PEDLVNATWREKLLQRLHSLN---GSILMIPAFMARGGKERVEWVNELILKHHVNVRTAY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N-glycan alpha 2,8-sialyltransferase - mouse.
C,Species: Mus musculus (house mouse)
C,Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 05-Oct-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   43;
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                                                                                                                                                                                                                                                                                          |||:: |:|: |:|: | 331 YYDSL--KYGYTSQASPHTMPLEFKALKSLHEQGALKLTVGQCDGA 374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           YYDNMLPKHGF-----HOMPKEYSOMLQLHMRGILKLQFSKCETA 398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      359 YYDNMLPKHGF-----HQMPKEYSQMLQLHMRGILKLQFSKCETA 398
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 19.2%; Score 403.5; DB 2; Best Local Similarity 28.6%; Pred. No. 1.4e-24; Matches 99; Conservative 62; Mismatches 142;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              84 LQYSLNSLSNKTRRYSEDDYLQTITNIQRCP-
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Status: preliminary
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Gaps

94;

ismatches 152; Indels ; DB 2; 4.7e-09;

xillary gland; transmembrane

Length 526

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-RTRNSTYLDEKTTQITEKCK-----

YLQTI--TNI------QRCPWNRQAEEYDNFRA 127

MSYEVESKKHIPIRENIFHMFPVSQPFVDYPYNQCA 187

RCNLPPITGSASKDVGSKTNL-----VTVNPSIITL 242 TYG--DAFLLLPAFSYRANTGISF---KVYQTLKES 290

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196 YSLDMSSLQTNCSASVKIXASKQPWLQNIFLPNITLFLDSGRFTQSEWNR-
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             354 GRRGFOHVPLGKDVRYLHFLEGT
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                                                                                                                                                                                                     86 YSLNSLSNKTR-----RYSEL
                                                                                                                                                                                                                                                                                                                                                                      188 VVGNGGILNKSLCGAEIDKSDFV
C; Keywords: glycosyltransferase; subm
                                                                                                                                                                                                                                                                                     128 KLASCCDAIQDFVVSQNNTPVGT
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                                    Query Match
10.1%; Sc
Best Local Similarity 25.7%; Pr
Matches 105; Conservative 58;
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Superfamily: sialyltransferase
                                                                               pha-N-acetylgalactosaminide alpha-2,6-sialyltransferase (EC 2.4.99.3) - chicken
                                                                                                                                                      R;Kurosawa, N.; Hamamoto, T.; Lee, Y.C.; Nakaoka, T.; Kojima, N.; Tsuji, S. J. Biol. Chem. 269, 1402-1409, 1994
A;Title: Moleoular cloning and expression of GalNAc alpha2,6-sialyltransferase. A;Reference number: A49880; MUID:94117458; PMID:8288607
A;Accession: A49880
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           424 RDYE----WLKALLLDKDIRKGFLNYYGRRPRERFDEDFTMNKYLVAHPDFLRYLKNRFL 479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIRNSTYLDEKTTOITEKCKDLOYSLNSLSNKTRRYSEDDY-LQTITNIORCPWNROAE 120
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FRCNLPPITGSASKDVGSKTNLVTVNPSIITLKYQNLKEK-------KAQFLEDI 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               259 STYGDAFLLIPAFSYRANTGISFKVY-----QTLKESKMRQKVLFFHPRYLRHL---- 307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               308 -----ALFWRTKGVTAYRLSTGLMIASVAVELCENVKLYGFWPFSKTIEDTPLSHHYYD 361
                                                                                                     Species: Gallus gallus (chicken)
Date: 30-Jun-1995 #sequence_revision 30-Jun-1995 #text_change 05-Oct-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EYDNFRAKLASCCDAIQDFVVSQNNTPVGTNMSY----EVESKKHI------PIR
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                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 10.4%; Score 218.5; DB 2; Length 566; Best Local Similarity 25.0%; Pred. No. 1.6e-09; Matches 98; Conservative 46; Mismatches 143; Indels 105;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                362 NMLPKHGF---HQMPKEYSQMLQLHMRGILKL 390
                                                                                                                                                                                                                                                                                                                                                                      C;Keywords: glycosyltransferase
                                                                                                                                                                                                                                                                                                            A;Residues: 1-566 <KUR>
                                                                                                                                                                                                                                                                 Status: preliminary
Molecule type: mRNA
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KGV-TA----YRLSTGLMIASVAVELCENVKLYGFW 344 KTLDTAHWRIYRPTTGALLLLTALHLCDKVSAYGF- 469

F---HOMPKEYSQMLQLHMRGILKL 390

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FYINHDFRLERMVWKRLHDEGIIWL 515
                                                               37
                                                           Search completed: May 26, 2006, 23:31
Job time : 42 secs
---ITEGHERFSDHYYDTSWKRI
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A;Cross-references: UNIPARC:UPI000017C623; GB:Y11274
A;Experimental source: submaxillary gland
C;Comment: This enzyme, a transmembrane protein, is a key enzyme for O-linked oligosacch thesizes cancer-associated carbohydrate antigen and shows acceptor substrate specificity

Molecule type: mRNA Residues: 1-526 < KUR>

Accession: JC7248

C;Genetics: AjGene: STGGalNAc I AjGene: STGGalNAc I AjGene: 39/2; 205/3; 262/1; 319/2; 365/3; 400/2; 430/2; 463/3

R;Kurosawa, N.; Takashima, S.; Kono, M.; Ikehara, Y.; Inoue, M.; Tachida, Y.; Narimatsu, J. Blochem, 127, 845-854, 2000
A;Title: Molecular cloning and genomic analysis of mouse GalNAc alpha2,6-sialyltransfera A;Reference number: JC7248

pha-N-acetylgalactosaminide alpha-2,6-sialyltransferase (EC 2.4.99.3) I - mouse Species: Mus musculus (house mouse)
Date: 09-Jun-2000 #sequence_revision 09-Jun-2000 #text_change 09-Jun-2000

Accession: JC7248

GenCore version 5.1.8 Copyright (c) 1993 - 2006 Biocceleration Ltd.

OM protein - protein search, using sw model

May 26, 2006, 23:22:10 ; Search time 197 Seconds (without alignments) 923.716 Million cell updates/sec Run on:

US-10-501-930-1 2102 1 MRSGGTLFALIGSLMLLLLL......MLQLHWRGILKLQFSKCETA 398 Title: Perfect score:

Scoring table: Sequence:

2589679 seqs, 457216429 residues BLOSUM62 Gapop 10.0 , Gapext 0.5 Searched:

2589679

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Total number of hits satisfying chosen parameters:

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

•• Database

A_Geneseq_8:*
1: geneseqp1980s:*
2: geneseqp1990s:*
3: geneseqp2001s:*
5: geneseqp2001s:*
6: geneseqp2003as:*
7: geneseqp2003bs:*
8: geneseqp2003bs:*
9: geneseqp2005s:*
10: geneseqp2006s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	lon	Murine ST	Human ST8	Human sia	Human cel	Rat Prote	Human alp	Human alp	Human GD3	Human Pro	Rat Prote	Extracell	Mouse isc	Sia alpha	Hamster p	Rat Prote	Human Pro	Human Pro	Human Pro	Rheumatoi	PRO polyp	Rat sialy	Rat Prote	Rat Prote
	Description	Adc73011	Adc73013	Aag66954	Adv69201	Ade56214	Aar88326	Aar63225	Aab86207	Add48076	Add48074	Aaw05301	Abb57203	Aaw05300	Aar97868	Ade60174	Ade60176	Add48964	Add48172	Adx57715	Ady15754	Aar48342	Add48962	Add48170
	QI	ADC73011	ADC73013	AAG66954	ADV69201	ADE56214	AAR88326	AAR63225	AAB86207	ADD48076	ADD48074	AAW05301	ABB57203	AAW05300	AAR97868	ADE60174	ADE60176	ADD48964	ADD48172	ADX57715	ADY15754	AAR48342	ADD48962	ADD48170
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Query	Match	100.0	84.1	56.1	56.1	33.3	33.3	33.3	33.2	22.7	22.5	22.4	22.4	22.4	20.0	19.9	19.8	19.8	19.8	19.8	19.8	19.2	19.0	19.0
	Score	2102	1768	1180	1180	701	700	700	697	477.5	474	470	470	470	419.5	418.5	416.5	416.5	416.5	416.5	416.5	403.5	399.5	399.5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          O-glycan alpha2,8-sialyltransferase;
beta-galactoside alpha2,6-sialyltransferase; cytostatic; virucide;
antiinflammatory; neuroprotective; cancer metastasis; viral infection;
inflammation; nerve tissue; human; ST8Sia VI; enzyme.
                                                                                                                                                                                         1 MRSGGT1FALIGS1MLLLLLRMLWCPADAPARSRLLMEGSREDTSGTSAALKTLWSPTTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRYLRHLALFWRTKGVTAYRLSTGLMIASVAVELCENVKLYGFWPFSKTIEDTPLSHHYY
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 The current sequence is that of the murine ST8Sia VI protein of
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                                                                                        ; Score 2102; DB 7;
; Pred. No. 2e-200;
0; Mismatches 0;
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                                                                                           100.0%;
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24-APR-2002; 2002JP-00122673.
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                                                                                                             Similarity
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                                                        Sequence 398 AA
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Best Local Simil
Matches 398; (
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erase having a novel substrate enzymes of the invention demonstrate natory and neuroprotective activities and hibiting cancer metastasis, preventing ammation and potentiating nerve tissues. The human $78$ia VI protein of the
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'; infection; inflammatory disease.
n and potentiating nerve tissues.
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                                                                                                                                                                                                                                                                                           Length 398;
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                                                                                                                                                                                                                                                                                         84.1%; Score 1768; DB 7;
82.4%; Pred. No. 4.3e-167;
ive 30; dismatches 40;
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                                                                   The invention relates to a novel O-having a novel substrate specifitition galactoside alpha2,6-sialyltranser specificity and selectivity. The encytostatic, virucide, antiinflammat, war be applicable in drugs for inhimativital infection, inhibiting infimmar. The current sequence is that of the
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                                2; SEQ ID NO 3; 97pp; Japa
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                                                                                                                                                                                                                                                                                                                  Best Local Similarity 82.4
Matches 328, Conservative
                                                                                                                                                                                                                                                                                                                Local Similarity
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us-10-501-930-1.rag

The invention relates to a novel polypeptide, human sialic transferase 27, polynucleotides encoding this polypeptide and a DNA recombination process to produce the polypeptide. The polypeptide is useful for treating various diseases, such as malignant tumours, nosohaemia, HIV infection, immunological diseases and inflammatory diseases. The invention also provides an antibody directed against the polypeptide. The present sequence is the polypeptide of the invention Sequence 247 AA;

RCNLPPTTGDVSKDVGSKTNLVTINPSIIILKYGNLKEKKALFLEDIATYGDAFFLLPAF 120 VELCENVKLYGFWPFSKTIEDTPLSHHYYDNMLPKHGFHQMPKEYSQMLQLHMKGILKLQ 391 MSYEVESKKHIPIRENI FHMFPVSQPFVDYPYNQCAVVGNGGILNKSLCGAEIDKSDFVF MSYEVESKKEI PIKKNI FHMFPVSQPFVDYPYNQCAVVGNGGILNKSLCGTEIDKSDFVF RCNLPPITGSASKDVGSKTNLVTVNPSIITLKYQNLKEKKAQFLEDISTYGDAFLLLPAF SYRANTGI SFKVYQTLKESKMRQKVLFFHPRYLRHLALFWRTKGVTAYRLSTGLM1ASVA Gaps ö Query Match 56.1%; Score 1180; DB 4; Length 247; Best Local Similarity 88.3%; Pred. No. 1e-108; Matches 218; Conservative 13; Mismatches 16; Indels FSKCETA 398 FSKCEVA 247 ч 61 121 152 212 272 332 181 392 g 셤 셤 ò 셤 ઠે Š ò ઠે

211

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271

331

24-FEB-2005 (first entry)

cell division regulating protein 27; cancer; cytostatic; HIV infection; anti-HIV; immune disorder.

sapiens

30-OCT-2002; 2002CN-00137726

(SHAN-) SHANGHAI BIODOOR GENE DEV CO LID

Xie Mao Y,

Human cell division regulating protein 27 SEQ ID NO 2. ADV69201 standard; protein; 247 AA. 30-OCT-2002; 2002CN-00137726 CN1493590-A 05-MAY-2004 241 ADV69201 Homo 셤

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                                                                                                   all division regulating protein 27, the arming the polypeptide by DNA recombinant Olypeptide in treating diseases, such intention immunopathy and the dits medical action, and application of sequence is that of the human cell fue invention.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                      New polypeptide-human cell disimtegrate regulatory protein 27 for treating cancer, human immunode iclency virus infection, and immunopathy.
                                                                                                                                                                                                                                                                                                                                                                                                   CVLFFHPRYLRHLALFWRTKGVTAYRLSTGLMIASVA 331
                                                                                                                                                                                                                                                                                                                                                                                                                                                      SHHYYDNMLPKHGFHQMPKEYSQMLQLHMRGILKLQ 391
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                                                                                                   The invention relates to human elpolynucleotide encoding it, prefar techniques, application of the cancer, human immunodeficiency in antagonist of the polypeptide and the polynucleotide. The present sedivision regulating protein 27 fed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Rat; pain; neuronal tissue; gen
chronic constriction injury; CC;
                                                                            Claim 1; SEQ ID NO 2; 25pp; Chi
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                                                                                                                                                                                                                                                                                             152 MSYEVESKKHIPIRENIFHMFP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181 VELCKAVKLYGFWPFSKTVEDI
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01-NOV-2001; 2001US-0346382P.
26-NOV-2001; 2001US-0333347P.
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Best Local Similarity 88.3
Matches 218; Conservative
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WPI; 2004-500615/48.
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            N-PSDB; ADV69200
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(FARB ) BAYER AG
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label= N-glycosylation_site

120. .168 /label= sialyl

Location/Qualif:

/label= N-glycosylation_site

258. .280 /label= sialyl_r

94JP-00145450.

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Human melanoma; SK-Mel-28; gang poside 3-synthase; tumour antigen;
detection; Northern blotting; g cosylation.
                                                                                             Key
Modified-site
                                                                                                                                                                                         Modified-site
                                                           Homo sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ठे
                                                                                                                                           The invention discloses a composition comprising two or more isolated rat or human polymucleotides or a polymucleotide which represents a fragment, derivative or allelic variation of the muctaic acid sequence. Also claimed are a vector comprising the movel polymucleotide, a host cell comprising the vector, a method for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain and a gent that increases or decreases the expression of the polymucleotide sequence that is differentially expressed in neuronal tissue of a first animal subjected to pain, a method for identifying a compound which regulates the expression of a polymucleotide sequence which is differentially compound that regulates the activity of one or more of the polymucleotides, a method for producing a pharmaceutical composition, a method for identifying a compound that regulates the activity of one or more of the regulates the activity in an animal of one or more of the polymeptides for identifying a compound or small molecule that regulates the activity in an animal of one or more of the polymeptides or their antibodies. The polymeptides or the compound that polymelication, a method for identifying a compound useful in treating pain and a pharmaceutical composition comprising the one or more polympeptides or their antibodies. The polymucleotide or the compound that modulates its activity is useful for preparing a medicament for treating pain (c.g. spinal segmental nerve injury (Nung), chronic constriction injury (CI) and spared nerve injury (Nung), in an animal (e.g. spinal segmental nerve injury (SNI)) in an animal (e.g. spinal segmental nerve injury (SNI)) in an animal composition comprision of the specification, but was obtained in alectronic form part of the printed specification, but was obtained in alectronic form part of the printed specification, but was obtained in alectronic form part of the printed print published pot_sequence enterce date for this patent did not form part of the proper printed pr
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGSASKDVGSKTNLVTVNPSIITLKYQNLKEKKAQFLEDISTYGDAFLLLPAFSYRANTG 278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SSEYTRDVGSKTQLVTANPSIIRQRFENLLMSRKKFVDNMKIYNHSYIYMPAFSMKTGTE 229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEDDYLQTITNIQRCPWNRQAEEYDNFRAKLASCCDAIQDFVVSQNNTPVGTNMSYEVES 158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         111 LYSLTIDISTYSLPPQATPF-QLPLKKCAVVGNGGILKMSGCGRQIDEANFVMRCNLPPL 169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             279 ISFKVYQTLKESKMRQKVLFFHPRYLRHLALFWRTKGVTAYRLSTGLMIASVAVELCENV 338
                                                     New composition comprising two or more isolated polypeptides, useful for preparing a medicament for treating pain in an animal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      339 KLYGEWPFSKTIEDTPLSHHYYDNMLPKHGFHQMPKEYSQMLQLHMRGILKLQFSKCE 396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S90 SIYGFWPFSVXMQGEPISHHYYDNVLPFSGFHAMPEBERLQLWYLHKMGALRMQLDPCE 347
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43.0%; Pred. No. 1.2e-60;
tive 65; Mismatches 103; Indels
                                                                                                                 Claim 1; Page; 1017pp; English
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Best Local Similarity 43.0%
Matches 128; Conservative
 WPI; 2003-268312/26
                     GENBANK, BAA08213
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               216 AIXGEWPFSVNMHEQPISHHYY WVLPFSGFHAMPEBFLQLWYLHKIGALRMQLDPCE 333
                                                                                                                                                                                                                                                           A cDNA clone coding for alpha 2 p-sialyltransferase was isolated from human melanoma SK-Mel-28 cDNA intravy and sequenced. The insert codes a protein (i.e. the present sequence) having ganglioside 3-synthase activity which is useful as a bachemical reagent. The cDNA is useful detecting tumour antigen by Norquern blot analysis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CONFRAKLASCCDAIQDFVVSQNNTPVGTNMSYEVES
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    useful for sensitive detection of

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                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 341;
                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
33.3%; Score 700; DB 2; Length 34
Best Local Similarity 43.6%; Prod. No. 1.3e-60;
Matches 130; Conservative 59; Mismatches 107; Indels
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                                                                                                                                                     Alpha 2,8-sialyl:transferase cDra
tumour antigen by Northern blot
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             216 PSLRVYYTLSDVGANOTVLFAN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              156 SSEYTKDVGSKSQLVTANPSII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         279 ISFKVYQTLKESKMRQKVLFFH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               339 KLYGFWPFSKTIEDTPLSHHYY
                                                                                                                                                                                                                  Claim 1; Page 6-7; 10pp; Japane
                                           (SEGK ) SEIKAGAKU KOGYO CO LTD
94JP-00145450.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (revised)
                                                                                        WPI; 1996-072336/08.
                                                                                                          N-PSDB; AAT03694
                                                                                                                                                                                                                                                                                                                                                                                               Sequence 341 AA;
  03-JUN-1994;
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Human alpha 2,8-sialyltransferase.

(first entry)

07-AUG-1996 AAR88326

RESULT 6
AAR88326
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AC AAR8
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AC AAR8
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AC AAR8
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AAR88326 standard; protein; 341

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Wed May 31 06:52:22 2006

26-JUN-1995 (first entry)

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Human, alpha-2,8-sialyltransferase; sialyltransferase; melanoma; E.coli;
pUC119; expression vector; pAMoPRC3Sc; PCR; amplify; primer; sugar chain;
physiological; ganglioside.
                                                                                                                                                                                                                                                  New alpha-2,8,-sialyl transferase - useful for producing physiologically active sugar chains.
                                                                                                                                                                                                                                                                                                 amino acid sequence of the novel human alpha-2,8-sialyltransferase
                    Human alpha-2,8-sialyltransferase protein.
                                                                                                                                                                                                 Nishi
                                                                                                                                                                                                                                                                               Claim 1; Page 63-66; 102pp; Japanese.
                                                                                                                                                                                                  Hanai N,
                                                                                                                                        94WO-JP000495.
                                                                                                                                                          93JP-00069988
                                                                                                                                                                              (KYOW ) KYOWA HAKKO KOGYO KK
                                                                                                                                                                                                 Sasaki K, Kurata K,
                                                                                                                                                                                                                      WPI; 1994-333182/41.
                                                                                                                                                                                                                                                                                                                                                                                         correct PN field.)
                                                                                                                                                                                                                               N-PSDB; AAQ77831
                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 356 AA;
                                                                                                                                       28-MAR-1994;
                                                                                                                                                          29-MAR-1993;
                                                                             Homo sapiens
                                                                                                                    13-OCT-1994.
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The gene encodes a protein of 356 a.a. The gene (called WP1) was isolated from the human melanoma cell line WN266-4 and cloned into the E.coli plasmid pUC119 to create pUC119. WP1. The gene was inserted into the expression vector pAWOPRC3SC to produce the plasmid pAMOPRSAMP1. The missing N-terminal 19 a.a. were inserted into this vector by PCR amplification using the primers AAG/7835-6. Alpha-2, 8-sialyltranseris is useful in the production of physiologically active sugar chains e.g. in the conversion of ganglioside GM3 to GD3. (Updated on 25-MAR-2003 to ñ Gaps ; 33.3%; Score 700; DB 2; Length 356; 43.6%; Pred. No. 1.4e-60; tive 59; Mismatches 107; Indels Query Match Best Local Similarity 43.6* Matches 130; Conservative

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SSEYTKDVGSKSQLVTANPSIIRQRFQNLLMSRKTFVDNMKIYNHSYIYMPAPSMKTGTE 230
SEDDYLQTITNIQRCPWNRQAEEYDNFRAKLASCCDAIQDFVVSQNNTFVGTNMSYEVES 158
                 TGSASKDVGSKTNLVTVNPSIITLKYQNLKEKKAQFLEDISTYGDAFLLLPAFSYRANTG 278
                                                                 KKHIPIRENIFHMFPVSQPFVDYPYNQCAVVGNGGILNKSLCGAEIDKSDFVFRCNLPPI
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231 PSLRVYYTLSDVGANQTVLFRANDNFLRSIGKFWKSRGIHAKRLSTGLFLVSAALGLCEEV 290 1SFKVYQTLKESKWRQKVLFFHPRYLRHLALFWRTKGVTAYRLSTGLMIASVAVELCENV 338 KLYGFWPFSKTIEDTPLSHHYYDNMLPKHGFHOMPKEYSOMLQLHMRGILKLQFSKCE 396 AIYGFWPPSVNWHEQPISHHYYDNVLPFSGFHAMPEEFLQLWYLHKIGALRMQLDPCE 348 339 291 충 셤 8 셤

standard, protein; 356 AA. AAB86207 RESULT 8

AAB86207

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RESULT

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This invention describes a novel use of inhibitors (I) of ganglioside GD3 synthase (II) for treatment of reurological disorders and their associated indications, symptome and dysfunctions. The products of the invention have anti-ischemic, cefebral, meurological, and anti-uncapeneration and antitumor activity. (I) are used, in human or veterinary medicine, to treat cefebral ischemia, (acute) stroke, traumatic brain or spinal cord injuries, and neurodegenerative diseases (especially Alzhaimer's and Parkinson's diseases, amyotrophic lateral sclerosis and multiple sclerosis, also brain tumors that cause injury to the brain. This sequence represents the human GD3 synthase described in the method of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       112 LYSFTIDNSTYSLFPQATPF-OLFLKKCAVVGNGGILKKSGCGRQIDEANFVMRCNLPPL 170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KYQNLKEKKAQFLEDISTYGDAFLLLPAFSYRANTG 278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       171 SSEYTKDVGAKSOLVTANPSIIK REQNILWSRKTFVDNMKIYNHSYIYMPAFSMKTGTE 230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           YLRHLALFWRTKGVTAYRLSTGLMIASVAVELCENV 338
                                                                                                anti-ischemic; cerebral; neurological; antineurodegeneration; natuitumor activity; veterinary redicine; cerebral ischemia; stroke; traumatic brain injury; spinal erd injury; neurodegenerative disease; Alzheimer's disease; Parkinson's disease; amyotrophic lateral sclerosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             348
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                        inhibitors for treating neurological or neurodegeneration.
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Pred: No. 2.9e-60;
0; Mismatches 107; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Use of ganglioside GD3 synthase
diseases, e.g. cerebral ischemia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure, Page 10-11; 16pp; Ge
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     53 NEKEIVÖGVLQ-QGTAWRRNQTA
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                                                                               synthase, human, inhibitor,
                                                                                                                                                               multiple sclerosis; brain tumor
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                                             Human GD3 synthase protein
              (first entry)
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                       Martin-Villalba A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 356 AA;
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              28-AUG-2001
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197 KSLCGAEIDKSDFVFRCNLPPIT
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QYSLNSLSNKTRRYSEDDYLQTI
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                                                                                                                                 DEVVSQNNTPVGTNMSYEVESKY
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01-NOV-2001; 2001US-0346382P.
26-NOV-2001; 2001US-0333347P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        14-AUG-2002; 2002WO-US025765
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (revised)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2003-268312/26.
GENBANK; AAB50061.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rattus norvegicus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO2003016475-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         02-DEC-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           27-FEB-2003.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           29-JAN-2004
                                                                                                                                    138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADD48074;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 10
ADD48074
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                                                                                                                                                                                                                                                                                                                                                                                            δ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The invention discloses a composition comprising two or more isolated rate or human polynucleotides or a polynucleotide which represents a fragment, derivative or allelic variation of the nucleic acid sequence. Also claimed are a vector comprising the nucleic acid sequence. Also claimed are a vector, a method for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain and a kit to perform the method, an array, a method for identifying a nagent that is differentially expressed in neuronal tissue of a first animal subjected to pain, a method for identifying a compound which regulates the expression of a polynucleotide sequence which is differentially expressed in an animal subjected to pain, a method for identifying a compound that regulates the activity of one or more of the composition, a method for producing a pharmaceutical composition, a method for identifying a compound useful in treating pain and a pharmaceutical composition comprising the one or more of the polypeptides or their antibodies. The polymucleotide or the compound that composition comprising the one or more polypeptides or their antibodies. The polymucleotide or the compound that in treating pain and a pharmaceutical composition comprising the one or more polypeptides or their antibodies. The polymucleotide or the compound that in treating pain and sequence presented is a human procein (described in Table 3 therapy). The sequence presented is a human procein (described in Table 3 therapy). The sequence presented is a human procein (described in Table 3 therapy). The sequence presented is a human procein (described in Table 3 pecification) which is differentially expressed during pain. Note: The sequence data for this patent did not form mark of the printed for the specification but was obtained an electronic form directly from WIPO at the specification and parent electronic form directly from will be a sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New composition comprising two or more isolated polypeptides, useful for preparing a medicament for treating pain in an animal.
                                                                                                                                                                                                                                                                                             Human; pain; neuronal tissue; gene therapy;
spinal segmental nerve injury; chronic constriction injury; CCI;
spared nerve injury; SNI; Chung.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 7; Length 380;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             22.7%; Score 477.5; DB 7; ilarity 34.5%; Pred. No. 2.6e-38; Conservative 55; Mismatches 130;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Costigan M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                   Human Protein XP_008782, SEQ ID NO 13773.
      ADD48076 standard; protein; 380 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Example 1; Page; 1017pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Befort K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14-AUG-2001; 2001US-0312147P.
01-NOV-2001; 2001US-0346382P.
26-NOV-2001; 2001US-0333347P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     14-AUG-2002; 2002WO-US025765
                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (GEHO ) GEN HOSPITAL CORP.
(FARB ) BAYER AG.
                                                                                                                                       (revised)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Woolf C, D'urso D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Similarity
Matches 114; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2003-268312/26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENBANK; XP_008782
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO2003016475-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Unidentified
                                                                                                                                    02-DEC-2004
29-JAN-2004
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                                                                       ADD48076;
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10;

Gaps

31;

Indels

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The invention discloses a composition comprising two or more isolated rat or human polynucleotides or a polynucleotide which represents a fragment, derivative or allelic variation of the nucleic acid sequence. Also calaimed are a vector comprising the novel polynucleotide, a host cell comprising the vector, a method to identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain and a kit to perform the method, an arthy, a method for identifying an agent
SASKDVGSKTNLVTVNPSIITLKYQNLK--EKKAQF 254
                                                                                                                                        255 LEDISTYGDAFLLLPAFSYRANTHISFKVYQTLKESKMRQKVLFFHP-RYLRHLALFWRT 313
                                                                                                                                                        VKLYGFWPFS----KTIEDTPLSHHYYDNMLPK---- 366
                                                                                                                                                                                                         therapy; spinal segmental nerve injury; spared nerve injury; SNI; Chung.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New composition comprising two of more isolated polypeptides, useful for preparing a medicament for treathing pain in an animal.
                                                                                                    LQFSKC 395
                                                                                                                                                                                                                                                              350 WQESHQLPAEFQLLYRWHGEGLTHETLSHC 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              tostigan M;
                                                                                                                                                                                                                                                                                                                                                                                                                                3771.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rat; pain; neuronal tissue; gene
chronic constriction injury; CC1
            62 OFALKFL-----DPSFVPI
                                                             113 NFSLTKNSVRIGQLMHYDYSSHM
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that is differentially expressed in neuronal tissue of a first animal subjected to pain, a method for identifying a compound which regulates the expression of a polynuclaotide sequence which is differentially expressed in an animal subjected to pain, a method for identifying a compound that regulates the activity of one or more of the polynucleotides, a method for indentifying a compound or small molecule that regulates the activity of one or more of the polynucleotides, a method for producing a pharmaceutical composition, a method for identifying a compound or small molecule that regulates the activity in an animal of one or more of the polypeptides given in the apening a method for identifying a compound useful in treating pain and a pharmaceutical composition comprising the one or more polypeptides or their antibodies. The polynucleotide or the compound that modulates it a activity is useful for preparing a medicament for treating pain (e.g. spinal segmental nerve injury (Chung), chronic constriction injury (CCI) and spared nerve injury (SNI) in an animal (e.g. gene the sequence date for this patent did not form part of the printed specification) which is differentially expressed during pain. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic form directly from WIPO at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ftp.wipo.int/pub/published_pct_sequences
      increases or decreases the
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Sequence 380 AA;

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107 ITN-----IQRCP--WNRQAEEYDNFRAKLASCCDAIQDFVVSQNNTPVGTNMSYEVESK 159
                                                                                                                   160 KHI-PIRENIFHMFPVSQPFVDYPYNQCAVVGNGGILNKSLCGAEIDKSDFVFRCNLPPI 218
                                                                           193
                                                                                                                                                                            219 TGSASKDVGSKTNLVTVNPSIITLKYQNLK--EKKAQFLEDISTYGDAFLLLPAFSYRAN 276
                                                                                                                                                                                                                                      277 TGISFKVYQTLKESKMRQKVLFFHP-RYLRHLALFWRTKGVTAYRLSTGLMIASVAVELC 335
                                                                                                                                                                                                                                                                    313
                                                                                                                                                                                                        194 TEAFHKDVGKKTNLTTFNPSILEKYYNNLLTIQDRNNFFLSLKKLDGAILWIPAFFFHTS 253
                                                                                                                                                                                                                                                                                                  ENVKLYGFWPFS---KTIEDTPLSHHYYDNMLPK----HGFHQMPKEYSQMLQLHMRGI 387
                                                                                                                                                                                                                                                                                                                 Gaps
                              22;
22.5%; Score 474; DB 7; Length 380; 35.7%; Pred. No. 5.7e-38;
                             52; Mismatches 124; Indels
             Best Local Similarity 35.7
Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                            388 LKLOFSKC 395
                                                                                                                                                                                                                                                                                                                                                                                        372 TKLTLSHC 379
                                                                                                                                                                                                                                                                    254
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Query Match
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Sialyltransferase; oligosialic acids; protein; glycoprotein; glycolipid; sugar; biosynthesis; cancer; metastasis; spermatazoa; inflammation;
                                                                           Extracellularly releasable sialyltransferase.
                    Ą.
                   AAW05301 standard, protein, 339
                                                          (first entry)
                                                                                                                    nervous tissue; ss.
                                                                                                                                       wus musculus
                                                         17-DEC-1996
                                                                                                                                                         EP736602-A2
                                                                                                                                                                              09-OCT-1996
                                     AAW05301;
RESULT 11
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WO200188188-A2

96EP-00105267.

02-APR-1996;

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0.7
                                                                                                                                                     hzyme - useful for treating e.g.
stasis, inflammatory reactions or nervous
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NMSYEVESKKHI-PIRENIFHMFPVSQPFVDYPYNQ 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DIMHYDYSSHKYVFSISNNFRSLLPDVSPIMNRYNV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /PRCNLPPITGSASKDVGSKTNLVTVNPSIITLKYQ 245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 CAVVGNSGILIGSOCGOGIDKSIHVSRCNFAP-TEAFHKDVGRKTNLTTFNPSILEKYYN 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LPAFSYRANTGISFKVYOTLKESKMROKVLFFHP-R 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                297
                                                                                                                                                                                                                                                         oligosialic acids such as di-, thi- or tetra-sialic acids into proteins, glycoproteins or glycolipids. It can be used in the treatment of hereditary diseases which involve the lack of enzymes needed for the blosynthesis of specified sugar chains. It can also be used for the prevention of cancerous metastasis, maturation of sperm, inhibition of prevention of carcinos or regenfation and reactivation of narvous tissues. This extracellularly releasable stalyltransferase comprises the active domain of the stalyltransferase described in AAW05300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SNKTRRYSEDDYLQTITNIQRCP--WNRQAEEYDNFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HE-------HOEKPSKWIFNRIAFIHOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IASVAVELCENVKLYGFWPFS---KTIEDTPLSHHY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   42; Gaps
                                                                                                                                                                                                                                                The sialyltransferase (SST) is useful as an agent for introducing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mouse ischaemic condition relater protein sequence SEQ ID NO:497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               thaemia; occlusive ischaemia;
condition; ischaemic disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 339;
                                                                      E
                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 470; DB 2; Length 33:
Pred. No. 1.2e-37;
Mismatches 128; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 298 YDKKGTKFTTKWQESHQLPAEFQLLYRMHGEGLIKLILSHC 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MIQLHMRGILKLQFSKC 395
                                                                           Киговама N,
                                                                                                                                                                                                                 Claim 11; Page 14-15; 25pp; Eng
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mouse; ischaemia; compressive is
vasospastic ischaemia; ischaemic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NLK--EKKAQFLEDISTYGDAFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360 YDNMLPK----HGFHQMPKEYS
                                                                                                                                                     New isolated sialyltransferase e
hereditary diseases, cancer meta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               69 YLDEKTTQITEKCKDLQYSLNSI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   26 FLDQSFVPIT-----NSI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             127 AKLASCCDAIQDFVVSQNNTPVQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180 NLLTIQDRNNFFLSLKKLDGAIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   303 YLRHLALFWRTKGVTAYRLSTGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (RIKA ) INST PHYSICAL & CHEM RE
                                                                           Kojima N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAVVGNGGILNKSLCGAEIDKSI
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                                                                                                                                                                                                                                                                                                                                                                                                                                    tch 22.4%; Sc
al Similarity 33.1%; Pr
113; Conservative 58;
              95JP-00077469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                          Yoshida Y,
                                                                                                        WPI; 1996-444889/45.
                                                                                                                       N-PSDB; AAT39664.
                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 339 AA;
              03-APR-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     07-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Si
Matches 113;
                                                                           Isuji S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ABB57203;
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요
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(first entry)

17-DEC-1996

Ishii Y;

Takahashi Y, Nagata T,

(revised)

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The present invention describes a method for examining ischaemic conditions, comprising measuring the expression levels of particular genes (I) in a test sample or determining the expression profile of a gene group in the sample conditions described from (I). The method is useful for examining the ischaemic condition (e.g. compressive ischaemia, occlusive ischaemia or vasospastic ischaemia) by measuring expression levels of particular genes (ABIS9202 to ABIS9912, encoding the protein sequences in ABB57020 to ABB57374) or by determining the protein sequences in ABB57020 to ABB57374) or by determining the protein sequences in ABB57020 to ABB57374) or by determining the levels or expression profiles produced by these genes are used as a indicator when screening for ischaemic condition-improving drugs or indicator ischaemic diseases. ABIS9911 and ABIS9914 represent PCR primers for a mouse ischaemic condition related sequence, which are used in the exemplification of the present invention
                                                                                                                                                                                                                                                                                                                    Examining the ischemic condition (e.g. occlusive ischemia) by measuring expression levels of particular genes defined in the specification or by determining the expression profile of a gene group comprising these
                                                                                                                                                           (UYNI-) UNIV NIHON SCHOOL JURIDICAL PERSON
                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 2; Page 1379-1381; 2690pp; English
                                                                18-MAY-2001; 2001WO-JP004192.
                                                                                                             2000JP-00145977
                                                                                                                                                                                                      Ishikawa K, Asai S,
                                                                                                                                                                                                                                                   WPI; 2002-034733/04.
N-PSDB; ABI99514.
                                                                                                             18-MAY-2000;
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Sequence 380 AA;

10, 359 338 126 OBILOHVDVIKOFSLIKKSSVRIGGLMHYDYSSHKYVFSISNNFRSLLPDVSPIMNKRYNV 161 CAVVGNSGILIGSQCGQEIDKSDFVSRCNFAP-TEAFHKDVGRKTNLTTFNPSILEKYYN 220 101 127 AKLASCCDAIQDFVVSQNNTPVGTNMSYEVESKKHI-PIRENIFHMFPVSQPFVDYPYNQ 185 CAVVGNGGILNKSLCGAEIDKSDFVFRCNLPPITGSASKDVGSKTNLVTVNPSIITLKYQ 245 NLK--EKKAQFLEDISTYGDAFLLLPAFSYRANTGISFKVYQTLKESKMRQKVLFFHP-R 302 NILTIQDRNNFFLSLKKIDGAILWIPAFFFHTSATVTRTLVDFFVEHRGOLKVOLAWPGN 280 :||: FLDQSFVPIT-----NSLTHE------LQEKPSKWTFNRTAFLHQR 69 YLDEKTTQITEKCKDLQYSLNSLSNKTRRYSEDDYLQTITNIQRCP--WNRQAEEYDNFR 303 YLRHLALFWRTKGVTAYRLSTGLMIASVAVELCENVKLYGFWPFS---KTIEDTPLSHHY Gaps 22.4%; Score 470; DB 5; Length 380; 33.1%; Pred. No. 1.4e-37; 58; Mismatches 128; Indels 360 YDNMLPK----HGFHQMPKEYSQMLQLHMRGILKLQFSKC 395 YDKKGTKFTTKWQESHQLPAEFQLLYRMHGEGLTKLTLSHC 379 Best Local Similarity 33.19 Matches 113, Conservative Local Similarity 186 246 221 Query Match ઠે ò 요 ò 셤 ò 유 ò 셤 δ

AAW05300 standard; protein; 381 AA.

RESULT 13 AAW05300 AAW05300,

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New isolated sialyltransferase anzyme - useful for treating e.g. hereditary diseases, cancer metastasis, inflammatory reactions or nervous
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            69 YLDEKTTOITEKCKDLQYSLNSTANSTANYSEDDYLQTITNIQRCP--WNRQAEEYDNFR 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NMSYEVESKKHI-PIRENIFHMFPVSQPFVDYPYNQ 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             103 QEILQHUDVIKNFSLIKSSVRIQDLMHYDYSSSHKYVFSISNNFRSLLPDVSFIMNKRYNV 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The sialyltransferase (SST) is useful as an agent for introducture oligosialic acids such as di., tri- or tetra-sialic acids into proteins, glycoproteins or glycolipids. It can be used in the treatment of hereditary diseases which involve the lack of enzymes needed for the blosynthesis of specified sugar thains. It can also be used for the prevention of cancerous metastars, maturation of sperm, inhibition of inflammatory reactions or regentation and reactivation of nervous inflammatory reactions or regentation of full length protein
                                                        ransferase, oligosialic drids, protein, glycoprotein, glycolipid, blosynthesis, cancer, metasis; spermatazoa, inflammation,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HE------HQEKPSKWTFNRTAFLHQR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    42;
                                  lpha 2,8-sialyltransferase.
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                                                                                                                                                                                                                                                               N-glycosylation site"
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                                                                                                                                                                                                                                                                                                                  /label= Potentia
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                                 Sia alpha 2,3Gal Beta 1,4GlcNAc
                                                                                                                                                                                                             'note= "Putative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               127 AKLASCCDAIQDFVVSQNNTPVQ
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                                                                                                                                                 ...16
note= "Signal
                                                                                                                                                                        17. .381
/note= "Mature
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/label= Sialyl
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/label= Sialyl
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Psuji S, Yoshida Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1996-444889/45.
N-PSDB; AAT39663.
                                                          Sialyltransferase,
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Best Local Similarity
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                                                                                    nervous tissue.
                                                                                                                                                                                                                        Modified-site
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                                                                                                            Aus musculus
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                                                                                                                                                                         Protein
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WPI; 2003-268312/26.
GENBANK; NP_033209.
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            Sequence 359 AA;
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                                  Query Match
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                                                                                                                         The Chinese hamster polysialyl transferase (PST) amino acid sequence (PST) (AAR97868) was deduced from a gene (AAT34653) isolated from CHO cealls by expression cloning. The enzyme actalyses the condensation of alpha-2, 9-linked sialic acids on acceptor structures such as neural cell adhesion molecule. Large quantities of PST can be produced by expression in prokaryotic or eukaryotic host cells. The enzyme can be used to modulate cell adhesion and to promote neurite growth. It can also be used for in vitro synthesis of polysialic acid and to screen for potential inhibitors. Antibodies raised against PST can be used in diagnosis and
            CAVVGNGGILNKSLCGAEIDKSDFVFRCNLPPITGSASKDVGSKTNLVTVNPSIITLKYQ 245
                         246 NLK--EKKAQFLEDISTYGDAFLLLPAFSYRANTGISFKVYQTLKESKWRQKVLFFHP-R 302
                                                                                                         303 YLRHLALFWRTKGVTAYRLSTGLMIASVAVELCENVKLYGFWPFS---KTIEDTPLSHHY 359
                                                                         Polysialyl transferase; PST; sialic acid; polysialic acid; NCAM;
neural cell adhesion molecule; cancer; metastasis; diagnosis; prognosis;
therapy; Chinese hamster.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New nucleic acid encoding poly:sialyl transferase - useful to control metastasis, promote neurite growth etc.
                                                                                                                                                         360 YDNMLPK-----HGFHQMPKEYSQMLQLHMRGILKLQFSKC 395
                                                                                                                                                                        Gerardy-Schahn R, Pukuda M, Nakayama J, Eckhardt M;
                                                                                                                                                                                                                                                                                                                                                                                                                                  141. .183
/label= Sialyl_motif
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/label= Sialyl-motif
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                                                                                                                                                                                                                                             AAR97868 standard; protein; 359
                                                                                                                                                                                                                                                                                                                     Hamster polysialyl transferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     94WO-EP004289.
95US-00503133.
95EP-00116387.
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                                                                                                                                                                                                                                                                                                                                                                                               Cricetus cricetus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21-DEC-1995;
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18-OCT-1995;
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            186
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                                                                                                                                                                                                                                                                                                                271
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        therapy; spinal segmental nerve injury; spared nerve injury; SNI; Chung.
                                                                                                                                      PVPRTRNSTYLDEKTTQIT---EKCKDLQYSLNSLSN
                                                                                                                                                                                SIITLKYONLKEK--KAOFLEDISTYGDAFLLLPAF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SHHYYDNMLPKHGF - - - - - HQMPKEYSQMLQLHMR
                                                                     Gaps
                                                                     25;
Length 359;
   Score 419.5; DB 2; Length
Pred. No. 1.4e-32;
Mismatches 160; Indels
DB 2;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      lat Protein NP_033209, SEQ ID NO 6074.
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chronic constriction injury; CCI
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229 MVKGGEKHVEWVNALILKNKLKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             332 VELCENVKLYGFWPFSKTIEDTH
   20.0%; Scd
28.9%; Pre
tive 78;
                                                                                                                                                                                                                                                                                                                                 54 KIIRKAGSTIFO--HSVO--GWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      214 NLPPITGSASKDVGSKTNLVTVN
                                                                                                                                      37 MEGSREDISGISAALKTLWSPI1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Befort K,
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01-NOV-2001; 2001US-0346382P.
26-NOV-2001; 2001US-0333347P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              14-AUG-2002; 2002WO-US025765
                                      Local Similarity <0.>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  347 GALKLITGKĆ 356
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The invention discloses a composition comprising two or more isolated rat or human polymucleotides or a polymucleotide which represents a fragment, derivative or allelic variation of the mucleic acid sequence. Also claimed are a vector comprising the novel polymucleotide, a host cell comprising the vector, a method for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain and a gent that increases or decrease the expression of the polymucleotide sequence that is differentially expressed in neuronal tissue of a first animal subjected to pain, a method for identifying a compound which regulates the expression of a polymucleotide sequence which is differentially expressed in an animal subjected to pain, a method for identifying a compound that regulates the activity of one or more of the compound that regulates the activity of one or more of the polymucleotides, a method for producing a pharmaceutical composition, a cutivity in an animal of one or more of the polymethotides of reductivity in an animal of one or more of the polymethotides given in the specification, a method for identifying a compound useful in treating compulates its activity is useful for preparing a medicament for treating pain and a pharmaceutical composition comprising the one or more composition comprising the one or more composition (e.g. spinal segmental nerve injury (CNI) and spared nerve injury (SNI) in an animal (e.g. gene the requence data for this patent did not form part of the printed specification, but was obtained in electronic form directly from WIPO at the way obtained in electronic form directly from wipo int/pub/published_pot_aguence. Sequence 359 AA; %856666666666666666666666666666668

94 KTRRYSEDDYLQTITNIQRCPWNRQAEEYDNFRAKLASCCDAIODFVVSQNNTPVGTNMS 153 54 KIIRKAGSTIFQ--HSVQ--GWKINSSLVLEIRKNILRFLDAERDVSVVKSSFKPGDVIH 109 53 37 MEGSREDTSGTSAALKTLWSPTTPVPRTRNSTYLDEKTTQIT---EKCKDLQYSLNSLSN DB 7; Length 359; 19.9%; Score 418.5; DB 7; Length 28.9%; Pred. No. 1.8e-32; tive 77; Mismatches 161; Indels Best Local Similarity 28.98 Matches 107; Conservative Query Match ð ò g ò

213 154 YEVESKKHIPIRENIFHMFPVSQPFVDYPYNQCAVVGNGGILNKSLCGAEIDKSDFVFRC

271 214 NLPPITGSASKDVGSKTNLVTVNPSIITLKYQNLKEK--KAQFLEDISTYGDAFLLLPAF

272 SYRANTGISFKVYQTLKESKMRQKVLFFHPRYLRHLALFWRTKGVTAYRLSTGLMIASVA 331

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셤 ò 386 GILKLQFSKC 395

347 GALKLTTGKC 356

Search completed: May 26, 2006, 23:25:39 Job time : 201 secs

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GenCore version 5.1.8
Copyright (c) 1993 - 2006 Biocceleration Ltd.
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OM protein - protein search, using sw model

May 26, 2006, 23:31:05 ; Search time 50 Seconds (without alignments) 696.744 Million cell updates/sec Run on:

US-10-501-930-1 2102 1 MRSGGTLFALIGSLMLLLLL.......MLQLHMRGILKLQFSKCETA 398 Title: Perfect score: Sequence:

Scoring table:

650591 seqs, 87530628 residues BLOSUM62 Gapop 10.0 , Gapext 0.5 Searched:

Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

1s Sued Patents_AA:*
1: /EMC_Celerra_SIDS3/ptodata/2/iaa/5_COMB.pep:*
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7: /EMC_Celerra_SIDS3/ptodata/2/iaa/RE_COMB.pep:* Database

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Description	Sequence 6307, Ap Sequence 6307, Apple Sequence 3, Appli Sequence 3, Appli Sequence 1, Appli Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 1641, Appl Sequence 347, Appl
ID	US-09-949-016-6307 US-09-949-016-6307 US-08-36-94A-3 US-08-626-994A-3 US-08-626-994A-1 US-08-626-994A-1 US-08-503-133A-2 US-08-503-133A-2 US-08-503-133A-2 US-08-949-016-10541 US-09-949-016-10541 US-09-949-016-10541 US-09-949-016-10541 US-09-999-016-10541
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% Query Match	0.000000000000000000000000000000000000
Score	44444 8 6 14444 8 6 14444 9 14444 9 14444 9 1444 9
Result No.	11111111111111111111111111111111111111

Sequence 347, App Sequence 5, Appli Sequence 6, Appli Sequence 6, Appli Sequence 2, Appli Sequence 2, Appli Sequence 1, Appli Sequence 7, Appli Sequence 7, Appli Sequence 7, Appli Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 12, Appli Sequence 12, Appli Sequence 12, Appli Sequence 12, Appli Sequence 12, Appli Sequence 12, Appli Sequence 4, Appli	ASSOCIATED OF DETECTION AND USES THEREOF	imilarity 39.4%; Sccee 705; DB 2; Length 368; imilarity 39.4%; Pred: No. 3.5e-67; Conservative 64; Mismatches 145; Indels 16; Gaps 6; PADAPARSLIAMEGSREDTSGTSMALKTLWSPTTPVPRTRNSTYLDEKTTQITEKCKDLQ 85
989-293A-347 666-367B-5 -143-438-5 -143-438-6 -143-438-6 -143-43-6 -1446-875-2 -146-875-1 -1413-438-7 -1413-438-7 -1413-438-7 -1413-438-7 -1413-438-7 -1413-438-7 -1446-777-4 -1446-777-4 -1446-777-4	I.GNMENTS 16 N KNOWN GENES EASE, METHODS 49,016 5 6 8 8 0n 4.0	TO5; DB 2; L NO.3.5e-67; MIRMATCHE 145; MALKTLWSPTTPVPRTR MALKTLWSPTTPVPRTR MALKTLWSPTTPVPRTR MALKTLWSPTTPVPRTR MALKTLWSPTTPVPRTR MALKTLWSPTTPVPRTR MALKTLWSPTPVPRTR MALKTLWSPTPVPRTR MALKTLWSPTPVPRTR MALKTLWSPTPVBTPKTR MALKTR ALKTR MALKTR MALKTR MALKTR MALKTR MALKTR MALKTR MALKTR MALKT MALKTR MALKT MALKTR MALKTR MALKTR MALKTR MALKTR MALKTR MALKT MALKTR MALKT MALKT MALKTR MALKT MALKT MA
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00000000000000000000000000000000000000	1001 Application US/099490 MATIN ENTINY ENTINY ENTINY ENTINY FOLYMORPHISMS TENTION MODATE 1CATION NUMBER: US/09/0 MODATE: 2000-04-14 ATION NUMBER: 60/231, 4 ATION NUMBER: 60/231, 4 EDATE: 2000-10-03	milarity 39.4%; Pre Conservative 64; ADAPARSRLIMEGSREDTSGTS ADAPARSRLIMEGSREDTSGTS ADAPARSPCGRARRQTSGTA SLUSILSNKTRRYSEDDYLQTIT SLI
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|. No. 2.5e-66;
|ismatches 107; Indels
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ERASE
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                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-LDS
SOFTWARE: Patentin Release #1 0, Vers
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/3611304A
FILING DATE: 29-NOV-1994
CLASSIFICATION DATA:
APPLICATION NUMBER: PCT/JP94/0495
FILING DATE: 28-MAR-1994
APPLICATION NUMBER: JP HEI-5-9988
FILING DATE: 28-MAR-1994
APPLICATION NUMBER: JP HEI-5-9988
FILING DATE: 1NFORMATION:
ATTORNEY AGENT INFORMATION:
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APPLICANT: Shuichi TSUJI et al., TITLE OF INVENTION: SIA' 2,3GalM, TITLE OF INVENTION: SIA' 2,3GalM, NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 33.2%; Scorest Local Similarity 43.3%; Prematches 129; Conservative 60;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99 SEDDYLQTITNIQRCPWNRQAEE
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TELEPHONE: (703) 816-4000
TELERA: (703) 816-4100
TELEX: 200797 NIXN UR
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 356
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME: WILSON, MARY J. REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MOLECULE TYPE: protein
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TOPOLOGY:
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STREET: 19
                              STATE: V1 COUNTRY:
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US-08-626-994A-3
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APPLICANT: VEXTER, J. Craig et al.
APPLICANT: VEXTER, J. Craig et al.
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
TILE REFERENCE: CLOO1307
CURRENT APPLICATION NUMBER: 60/241,755
PRIOR PELING DATE: 2000-04-14
PRIOR PELING DATE: 2000-10-20
PRIOR PELING DATE: 2000-10-03
PRIOR PILING DATE: 2000-10-03
PRIOR PILING DATE: 2000-00-09
PRIOR PILING DATE: 2000-09-08
NUMBER: 06 SEQ ID NOS: 207012
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 6307
TYPE: PRT
                           290 FLVSAALGLCEEVAIYGFWPFSVNWHEQPISHHYYDNVLPFSGFHAMPEEFLQLWYLHKI 349
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326 MIASVAVELCENVKLYGFWPFSKTIEDTPLSHHYYDNMLPKHGFHQMPKEYSQMLQLHMR 385
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33.3%; Score 700; DB 2; L
Best Local Similarity 43.6%; Pred. No. 1.2e-66;
Matches 130; Conservative 59; Mismatches 107;
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Patent No. 6812339
                                                                                                                        386 GILKLOFSKCE 396
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US-09-949-016-6307
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-09-949-016-6307
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22.4%; Score 470; DB 1; Length 339;
Best Local Similarity 33.1%; Pred. No. 7.8e-42;
Matches 113; Conservative 58; Mismatches 128; Indels
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Sequence 3, Application US/08957742
Sequence 3, Application US/08957742
Patent No. GOTT743
GENERAL INFORMATION:
APPLICANT: Shuichi TSUJI et al.
TITLE OF INVENTION: SIA 2,3Gala 1,4GICNAC 2,8-
TITLE OF INVENTION: SIALYLTRANSFERASE
NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADDRESSEE: Greenblum & Bernstein, P.L.C.
COMPUTER READABLE FORM:

MEDIUM TYPE: 1.44 diskette
COMPUTER: IBM PC compatible
OPERATING SYSTEM: MS-DOS
SOFTWARE: Word Perfect 5.1+ (ASCII)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/626,994A
FILING DATE: April 3,1996
CLASSIFFCATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 77469/1995
FILING DATE: April 3, 1995
ATTORNEY/AGENT INFORMATION:
NAME: Arnold Turk
REGISTRATION NUMBER: 33,094
REFERENCE/DOCKET NUMBER: P14595
TELEGOMMUNICATION INPORMATION:
TELEFAN: (703) 716-1191
TELEFAN: (703) 716-1191
TELEFAN: (703) 716-1190
SEQUENCE CHARACTERISTICS:
FROGENCE CHARACTERISTICS:
FROME COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPANIENT COMPAN
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TOPOLOGY: lin
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69 YLDEKTTQITEKCKDLQYSLNSTBNKTRRYSEDDYLQTITNIQRCP--WNRQAEEYDNFR 126
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | |: | :: | |: | OLWHYDYSSHKYVFSISNNFRSLLPDVSPIMNKRYNV 120
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LEPAESYRANTGISFKVYQTLKESKWRQKVLFFHP-R 302
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 22.4%; Scare 470; DB 2; Length 339; Best Local Similarity 33.1%; Prod. No. 7.8e-42; Matches 113; Conservative 58; Mismatches 128; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 1, Application US/08626994
; Patent No. 5798244
; GENERAL INFORMATION:
APPLICANT: Shuichi TSUJI et al TITLE OF INVENTION: Sia' 2,3Gala 1,4GlcNAC TITLE OF INVENTION: SIALYLTRANGFERASE
NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
ADDRESSEE: Greenblum & Bernstein, P.L.C.
STREET: 1941 Roland Clarke Place
                                                                                                SCII)
                                                                                                                                         742
COMPUTER READABLE FORM:
MEDIUM TYPE: 1.44 diskette
COMPUTER: IBW C comparible
OPERATING SYSTEM: MS-DOS
SOFTWARE: Word Perfect 5.1+
CURRENT APPLICATION DATA:
PILICATION NUMBER: US/08/95', 7.
FILING DATE:
RAPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: 08/626,994
FILING DATE: APPTIS 3, 1996
APPLICATION NUMBER: 08 7146919
FILING DATE: APPTIS 3, 1995
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REGISTRATION NUMBER: 33,094
REFERENCE/DOCKET NUMBER: P14,
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 716-1191
TELEFAX: (703) 716-1180
INPORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 QEILQHVDVIKNFSLTKSSVRI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      26 FLDOSFVPiT------NS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRANDEDNESS: not relevant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         339 amino acids
                                                                                                                                                                                                                                                                                                                                        NAME: Arnold Turk
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127 AKLASCCDAIQDFVVSONNTPVC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                not relevant
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805 Third Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 364 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADDRESSEE: 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      359
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          69 YLDEKTTQITEKCKDLQYSLNSLSNKTRRYSEDDYLQTITNIQRCP--WNRQAEEYDNFR 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                127 AKLASCCDAIQDFVVSQNNTPVGTNMSYEVESKKHI-PIRENIFHMFPVSQPFVDYPYNQ 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAVVGNGGILNKSLCGAEIDKSDFVFRCNLPPITGSASKDVGSKTNLVTVNPSIITLKYQ 245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  146 CAVVGNSGILTGSQCGQEIDKSDFVSRCNFAP-TEAFHKDVGRKTNLTTFNPSILEKYYN 204
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      82
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Patent No. 6017743
GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION: Sia' 2,3Gala 1,4GICNAC ' 2,8-
TITLE OF INVENTION: SIA'LTRANSFERASE
NUMBER OF SEQUENCES:
CORRESPONDENCE ADDRESS:
ADDRESSEE: Greenblum & Bernstein, P.L.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
22.4%; Score 470; DB 1; L
Best Local Similarity 33.1%; Pred. No. 8.7e-42;
Matches 113; Conservative 58; Mismatches 128;
                                                                                                                    CURRENT APPLICATION DATA:
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/626,994A
FILING DATE: April 3, 1996
CLASSIFICATION ATA:
PRIOR APPLICATION DATA:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: J. 1995
ATTORNEY/AGENT INFORMATION:
NAME: Arnold Turk
REGISTRATION NUMBER: 33,094
REFERENCE/DOCKET NUMBER: 914595
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION FOR SEQ ID NO: 1:
SEQUIENCE CHARACTERISTICS:
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                                  COMPUTER READABLE FORM:
MEDIUM TYPE: 1.44 diskette
COMPUTER: IBM PC compatible
OPERATING SYSTEM: MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 364 amino acids
TYPE: amino acid
STRANDEDNESS: not relevant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TOPOLOGY: linear
U.S.A
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COUNTRY:
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69 YLDEKTTQITEKCKOLQYSLNSI#NKTRRYSEDDYLQTITNIQRCP--WNRQAEEYDNFR 126
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 2, Application US/08503131A
Patent No. 5747326
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Gerardy-Schahn, Rite Fukuda, Minoru;
APPLICANT: Gerardy-Schahn, Rite Fukuda, Minoru;
APPLICANT: GENARAYAMA, Jun; Eckhardt, Matthias
TITLE OF INVENTION: Isolated Polysialy! Transferases,
TITLE OF INVENTION: Production and Use
NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IIASVAVELCENVKLYGFWPFS---KTIEDTPLSHHY
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8.7e-42;
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LYRMHGEGLTKLTLSHC 363
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    e 470;
                                                                                                                  SCII)
COMPUTER READABLE FORM:
MEDIUM TYPE: 1.44 diskette
COMPUTER: IBM PC compatible
OPERATING SYSTEM: MS-DOS
SOFTWARE: Word Perfect 5.1+
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/957,742
FILING DATE:
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/66,994
FILING DATE: April 3, 1996
APPLICATION NUMBER: 09/966,994
FILING DATE: April 3, 1995
ATTORNEY/AGENT INFORMATION:
NAME: ATTOL TING DATE: April 3, 1995
ATTORNEY/AGENT INFORMATION:
TELEPHONE: (703) 716-1191
TELEPHONE: (703) 716-1191
TELEPHONE: (703) 716-1191
TELEPAX: (703) 716-1191
TELEPAX: (703) 716-1191
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TELEPAX: AA AMINO ACIGS:
                                                                                                                                                                742
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22.4%; Scorn
Best Local Similarity 33.1%; Pred
Matches 113; Conservative 58; R
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and Use
                                                                                                                                                                                                                                                         CURRENT APPLICATION DATA:
SOFTWARE:
Wordporfect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/576,7
PILING DATE: 21-December-1999
CLASSIPICATION: 514
PRIOR APPLICATION DATA:
PRIOR APPLICATION DATA:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/503,113
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
ATTORNEY/AGENT INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        94 KTRRYSEDDYLQTITNIQRCPWI
  Production
                                                       ADDRESSEE: Felfe & Lynch
STREET: 805 Third Avenue
CITY: New York City
STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best_Local Similarity 28.9 Matches 107; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; MOLECULE TYPE: protein US-08-576-775A-2
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                   NUMBER OF SEQUENCES: 8
  FITTE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOPOLOGY:
                                                                                                                                            COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | | | : | : | : | : | : | | | 10 NIAPYVEFAA-DVGTKSDFITMNPSVVQRAFGGFRNESDRAKFVHRLSMLNDSVLWIPAF 228
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       154 YEVESKKHIPIRENIFHMFPVSQPFVDYPYNQCAVVGNGGILNKSLCGAEIDKSDFVFRC 213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 214 NLPPITGSASKDVGSKTNLVTVNPSIITLKYQNLKEK--KAQFLEDISTYGDAFLLLPAF 271
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 2, Application US/08576775A
Patent No. 5848904
GENERAL INFORMATION:
APPLICANT: Gerardy-Schahn, Rita; Fukuda, Minoru;
APPLICANT: Nakayama, Jun; Eckhardt, Matthias
APPLICANT: Nakayama, Jun; Eckhardt, Matthias
TITLE OF INVENTION: Isolated Polysialyl Transferases,
TITLE OF INVENTION: Nucleic Acid Molecules Coding Therefor, Methods of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
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                                                                                                 3: Diskette, 3.5 inch, 360 kb storage
IBM PS/2
                                                                                                                                 COMPUTER: 1487 PS/2 DOS
SOFTWARE: Wordperfect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/503,133A
FILING DATE: 17-JULY-1995
CLASSIFICATION NATA:
APPLICATION NUMBER: PCT/EP94/04289
FILING DATE: 22-DEC-1994
ATTORNEY/AGENT INFORMATION:
NAME: Hanson, No. 5747326man D.
REGISTRATION NUMBER: BOER 1050
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 688-9200
TELEPHONE: (212) 838-3894
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHRACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    : 359 amino acids
amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 28.9%
Matches 107, Conservative
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                                                                          COMPUTER READABLE FORM MEDIUM TYPE: Diskett COMPUTER: IBM PS/2
CITY: New York City
STATE: New York
COUNTRY: USA
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54 KIRKAGSTIFQ--HSVQ--GWHINSELVLEIRKNILRFLDAERDVSVVKSSFKPGDVIH 109
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COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.5 inch, 360 kb storage
COMPUTER: IEW PS/-
OPERATING SYSTEM: PC-DOS
                                                                                                                                                                                                                                                                                                                                                                                                       1050.1
                                                                                                                                                                                                                                                                                           04289
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REFERENCE FOOKET NUMBER: BOEE 10
TELECOMMUNICATION INFORMATION:
TELEFAX: (212) 838-9200
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 359 amino acids
TYPE: amino acids
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SHHYYDNMLPKHGF-----HQMPKEYSQMLQLHMR 385
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                                                                                                                                                                                                                 Sequence 2, Application US/0889548.
Patent No. 6020201
GENERAL INFORMATION:
APPLICANT: GERATY-Schahn, Rite;
APPLICANT: Nakayama, Jun; Eckhrid
TITLE OF INVENTION: Isolated Pcly;
TITLE OF INVENTION: Production and TITLE OF INVENTION: Production and CORRESPONDENCE ADDRESS:
ADDRESSER: Felfe & Lynch
STREET: Now York City
CITY: Now York City
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: Wordperfect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.5 ir
COMPUTER: IBM PS/2
OPERATING SYSTEM: PC-DOS
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REGISTRATION NUMBER: 30,946
REFERENCE/DOCKET NUMBER: BOBR
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 688-9200
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1 MRSIRKRWTICTISLLLIFYKTE
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  332 VELCENVKLYGFWPFSKTIEDT
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/503,1:
FILING DATE:
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28.9%; Pre
ltive 78;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEFAX: (12) 838-3847
INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    37 MEGSREDTSGTSAALKTLWSPTTPVPRTRNSTYLDEKTTQIT---EKCKDLQYSLNSLSN:93
                Sequence 2, Application US/08972498
Patent No. 5559078
GENERAL INFORMATION:
APPLICANT: Gerardy-Schahn, Rita; Fukuda, Minoru;
APPLICANT: Nakayama, Jun; Eckhardt, Matthias
TITLE OF INVENTION: Isolated Polysialyl Transferases,
TITLE OF INVENTION: Nucleic Acid Molecules Coding Therefor, Methods of
TITLE OF INVENTION: Production and Use
NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20.0%; Score 419.5; DB 1; Length 359; 28.9%; Pred. No. 2.4e-36; tive 78; Mismatches 160; Indels 25; Gaps
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MEDIUM TYPE: Diskette, 3.5 inch, 360 kb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION: 536
PRIOR APPLICATION DATA:
PPLICATION NUMBER: 08/55,775
FILING DATE: 21-December-1995
APPLICATION NUMBER: 08/503,133
FILING DATE: 17-July-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/EE94/04289
FILING DATE: 22-December-1994
ATTORNEY/AGENT INFORWATION:
NAME: HANSON, No. 5959078man D.
REGISTRATION NUMBER: 30,946
REPERRENCE/DOCKET NUMBER: 30,946
REPERRENCE/DOCKET NUMBER: 30,946
REPERRENCE/DOCKET NUMBER: BOER 1050.1
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US/08/972,498
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEPHONE: (212) 688-9200
TELEPAX: (212) 888-3884
INFORMATION FOR SEC ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                        ADDRESSEE: Felfe & Lynch
STREET: 805 Third Avenue
CITY: New York City
STATE: New York
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     359 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 28.9%
Matches 107; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: Wordperfect CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE: protein
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OPERATING SYSTEM:
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289 TRFCDEIHLYGFWPFPKDLNGKAYKYYYDDL--KYRYFSNASPHRMPLEFKTLNVLHNR 346 QAEEYDNFRAKLASCCDAIQDFVVSQNNTPVGTNMS 153 FVDYPYNQCAVVGNGGILNKSLCGAEIDKSDFVFRC 213 SIITLKYQNLKEK--KAQFLEDISTYGDAFLLLPAF 271 VPRTRNSTYLDEXTTQIT----EKCKDLQYSLNSLSN 93 ardt, Matthias dysialyl Transferases, da Molecules Coding Therefor, Methods of and Use 11ARTE----EHQETQLIGDGELC--LSRSLVNSSD 25; Length 359; Score 419.5; DB 2; Length 3 Pred. No. 2.4e-36; Mismatches 160; Indels

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       19.4%; Score 408.5; DB 2; 28.6%; Pred. No. 4.2e-35; tive 64; Mismatches 140;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               & Rose
;, Suite 3800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TNIORCP-
Sequence 9465, Application US/09949016
Patent No. 6812339
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3: Poms, Smith, Lande
2029 Century Park Eas
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         223 FEDLVNATWREKLLORLHSIN-
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Patent No. 5858751
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity 28.6
Matches 99; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-949-016-9465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
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GENERAL INFORMATION:
GENERAL INFORMATION:
CERNICAL INFORMATION:
CHARL INFORMATION:
TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
TITLE OF INVENTION: UNMBER: US/09/949,016
CURRENT FILING DATE: 2000-04-14
PRIOR FILING DATE: 2000-10-20
PRIOR APPLICATION NUMBER: 60/231,498
PRIOR APPLICATION NUMBER: 60/231,498
PRIOR APPLICATION NUMBER: 60/231,498
PRIOR PRILING DATE: 2000-09-08
NUMBER OF SEQ ID NOS: 207012
SEQ ID NOS: 207012
SEQ ID NO 10541
                              385
                                                                                                                289 TRFCDEIHLYGFWPFPKDLNGKAVKYHYYDDL--KYRYFSNASPHRMPLEFKTLNVLHNR 346
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          SYRANTGISFKVYQTLKESKMRQKVLFFHPRYLRHLALFWRTKGVTAYRLSTGLMIASVA
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                                                                                           VELCENVKLYGFWPFSKTIEDTPLSHHYYDNMLPKHGF-----HOMPKEYSOMLOLHMR
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                                                                                                                                                                                                                                                                                                                  Sequence 10541, Application US/09949016
Patent No. 6812339
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ORGANISM: Human
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TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED

TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

TITLE OF INVENTION WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

CURRENT APPLICATION NUMBER: US/09,949,016

CURRENT APPLICATION NUMBER: 60/241, 55

PRIOR APPLICATION NUMBER: 60/241, 56

PRIOR APPLICATION NUMBER: 60/237, 68

PRIOR PILING DATE: 2000-10-03

PRIOR PELING DATE: 2000-10-03

PRIOR PELING DATE: 2000-09-08

NUMBER OF SEQ ID NOS: 207012

SEQ ID NO 9465

LENGTH: 384 /INGSSSPAVVDRSNESIKHNIOPASSKWRHNQTLSL 103 VGTNMSYEVESKKHIPIRENIFHMFPVSQPFVDYPY 183 | | : | : | : : : | : | CBDIHYIFDRDSTWANVSQNLYELLPRISPLKNKHF 163 DEVFRCNLPPITGSASKDVGSKTNLVTVNPSIITLK 243 BDAFLLLPAFSYRANTGISFKVYQTLKESKWRQKVLF 298 GSILWIPAFMARGGKERVEWVNELILKHHVNVRTAY 279 TGLMIASVAVELCENVKLYGFWPFSKTIEDTPLSHH 358 TGLLMYTLATRFCKQIYLYGFWPPPLDQNQNPVKYH 339 APPLICANT: Paulson, James C.
APPLICANT: Wen, Xiaohong
APPLICANT: Livingston, Brian Duane
APPLICANT: Gillespie, William
APPLICANT: Relm, Sorge
APPLICANT: Burlingame, Alma L.
APPLICANT: Burlingame, Alma L.
APPLICANT: Medalhradszky, Katalin
TITLE OF INVENTION: Compositions and Methods for the
TITLE OF INVENTION: Identification and Synthesis of Sialyltransferases Los Angeles CA ADDRESSEE: STREET: 202 CITY: LOS A STATE: CA

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CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              196 NKSLCGAEIDKSDFVFRCNLPPITGSASKDVGSKTNLVTVNPSIITLKYQNL----KEK 250
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VENTION: Compositions and Methods for the
VENTION: Identification and Synthesis of Sialyltransferases
EGURNCES: 36
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                                                        COMPUTER: Ploppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
SOFTWARE: Patentin Release #1.0, Version #1.25
SOFTWARE: Patentin Release #1.0, Version #1.25
SOFTWARE: Patentin Release #1.0, Version #1.25
SUBJUCTION NUMBER: US/08/46,875
FILING DATE: Ully 12, 1995
CLASSIFICATION DATA:
APPLICATION NUMBER: 08/102,385
FILING DATE: August 4, 1993
ATTORNEY/AGENT INFORMATION:
NAME: Oldenkamp, David J.
REGISTRATION NUMBER: 29,421
REGISTRATION NUMBER: 29,421
REGISTRATION NUMBER: 29,421
REGISTRATION NUMBER: 111-197
TELEPHONE: (310) 789-5000
TELEPKK: (310) 277-1297
INFORMATION FOR SEQ ID NO: 8:
SEQUENCE CHARACTERISTICS:
LENGTH: 375 aning acids
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Wen, Xiaohong
Livingston, Brian Duane
Gillespie, William
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; Sequence 8, Application US/08102385G; Patent No. 5962294; GENERAL INFORMATION:
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Burlingame, Alma L
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                                         COMPUTER READABLE FORM MEDIUM TYPE: Floppy
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APPLICANT: Gillespie,
APPLICANT: Kelm, Sorg
APPLICANT: Burlingame
APPLICANT: Medzihrads
TITLE OF INVENTION: C
TITLE OF INVENTION: C
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APPLICANT:
COUNTRY:
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-----IQ--RCPWNRQAEEYDNFRAKLASCCDA 135
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. No. 5.2e-33;
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     Donnelly LLP
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COMPUTEY READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: Floppy disk
COMPUTER: Floppy disk
COMPUTER: Floppy disk
COMPUTER: DEACHINE FOLDS/MS-LDS
SOFTWARE: PATENT NC-LDS/MS-LDS
SOFTWARE: PATENTIN Release #110, Vers:
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/102 385G
FILING DATE: 04-AUG-1993
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/92269
FILING DATE: 04-AUG-1992
ATTONEY/AGENT INPORMATION:
NAME: Oldenkamp, David J.
REGISTRATION NUMBER: 29,421
REFERENCE/COCKTIN NUMBER: 97-042
TELECOMMUNICATION INPORMATION:
TELECOMMUNICATION INPORMATION:
TELECOMMUNICATION INPORMATION:
TELECOMMUNICATION INPORMATION:
TELECOMMUNICATION SECOID NO: 8:
CONTINUE FOR SECOID NO: 8:
ADDRESSEE: Oppenheimer Wolff STREET: 2029 Century Park East
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18.5%; Scort
Best Local Similarity 29.3%; Pre-
Matches 98; Conservative 58;
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Job time : 52 secs
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amino acid
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Sequence 3, Appli
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| FBMC_celerra_SIDS3/ptodata/2/pubpaa/USO7_PUBCOMB.pep:*
| FBMC_celerra_SIDS3/ptodata/2/pubpaa/USO8_PUBCOMB.pep:*
| FBMC_celerra_SIDS3/ptodata/2/pubpaa/USO8_PUBCOMB.pep:*
| FBMC_celerra_SIDS3/ptodata/2/pubpaa/USIOA_PUBCOMB.pep:*
| FBMC_celerra_SIDS3/ptodata/2/pubpaa/USIOB_PUBCOMB.pep:*
| FBMC_celerra_SIDS3/ptodata/2/pubpaa/USIOB_PUBCOMB.pep:*
| FBMC_celerra_SIDS3/ptodata/2/pubpaa/USIOB_PUBCOMB.pep:*
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                                                                                                                                                         US-10-501-930-1
2102
1 MRSGGTLFALIGSLMLLLLL.......MLQLHWRGILKLQFSKCETA 398
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Sequence 3
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GenCore version 5.1.8
Copyright (c) 1993 - 2006 Biocceleration Ltd.
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US-09-867-550-1960
US-09-989-723-347
US-09-989-723-347
US-09-989-727-347
US-09-989-731-347
US-09-991-073-347
US-09-991-073-347
US-09-991-073-347
US-09-991-163-347
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US-09-989-735-347
US-09-990-444-347
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Maximum Match 100%
Listing first 45 summaries
                                                            OM protein - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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Maximum DB seq length: 2000000000
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Match Length DB
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Perfect score:
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997-653-347 Sequence 347, App 989-724-347 Sequence 347, App 990-441-347 Sequence 347, App 990-441-347 Sequence 347, App 991-667-347 Sequence 347, App 990-438-347 Sequence 347, App 990-711-347 Sequence 347, App 990-711-347 Sequence 347, App 990-711-347 Sequence 347, App 999-756-347 Sequence 347, App 999-156-347 Sequence 347, App 991-157-347 Sequence 347, App 991-157-347 Sequence 347, App 997-514-347 Sequence 347, App 997-514-347 Sequence 347, App 997-513-347 Sequence 347, App	.IGNMENTS SNZYME 501,930	re 2102; DB 5; Length 398; d. No. 3.8e-191; fismatches 0; Indels 0; Gaps	CONTRACTOR TO THE CONTRACT THE	 NRQAE 12	MNTPVGTNMSYEVESKKHIPIRENIFHMFPVSQPFVD 180	DKSDFVFRCNLPPITGSASKDVGSKINLVTVNPSII 240	AFLLEPAESKRANTGISFKVYQTLKESKYRQKVLFFH 300 	prylrhialemrtkgytayristatatavavelcenvklygfwppsktiedtPlshhyy 360
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	tion US/1050193 0060057696A1 : MA, Shou OTO, Masafumi shuichi : GLYCOSYLATING 5.587 N NUMBER: US/10 E: 2004-07-29 NUMBER: PCT/JPO 2003-01-30 OS: 30 version 3.3	100 100 ative	IGSLM IGSLM IGSLM	LOBKT	SCCDAI(HIGGIE 	CCAOFL CCAOFL	FWRTKG FWRTKG
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APPLICATION NUMBER: US/08/FILING DATE: 29-NOV-199
APPLICATION NUMBER: DCT/05/FILING DATE: 29-NAR-199
APPLICATION NUMBER: DCT/05/FILING DATE: 29-NAR-199
ATTORNEY/AGENT INFORMATION:
NAMME: WILSON, MARY J.
REGISTRATION NUMBER: 32
TELEPHONE: (703) 816-40100
TELEPHONE: (703) 816-40100
TELEPHONE: (703) 816-40100
STREET: 1100 NORTH GLEER
                                                                                                                                                                                                          CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/N
FILING DATE: 07-May-20G
CLASSIFICATION: <Unknown
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         231 PSLRVYYTLSDVGANOTVLFANE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN: WM266-4 cell
CELL TYPE: melanoma
SEQUENCE DESCRIPTION: SEQ ID
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Publication No. US20040092438A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Homo sapiens
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SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity 43.33
Matches 129; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EYDNFRAKLASCCDAIQDFVVSQNNTPVGTNMSYEVESKKHIPIRENIFHMFPVSQPFVD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241 TLKYQNLKEKKAQFLEDISTYGDAFLLLPAFSYRANTGISFKVYQTLKESKWRQKVLFFH 300
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                   DNMLPKHGFHQMPKEYSQMLQLHMRGILKLQFSKCETA 398
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HANAI, NOBUO
NISHI, TATSUNARI
TITLE OF INVENTION: '-2,8-SIALYLTRANSFERASE
NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
ADDRESSER: NIXON & VANDERHYE P.C.
                                                                                                                                                                                                     APPLICANT: TAKASHINA, Shou
APPLICANT: TSUJIMOTO, Masafumi
APPLICANT: TSUJIMOTO, Masafumi
APPLICANT: TSUJIMOTO, Masafumi
TITLE OF INVENTION: GLYCOSYLATING ENZYME
FILE REPERENCE: P25687
CURRENT APPLICATION NUMBER: US/10/501,930
CURRENT FILING DATE: 2004-07-29
PRIOR APPLICATION NUMBER: PCT/JP03/00883
PRIOR PILING DATE: 2003-01-30
SOFTWARE: Patentin version 3.3
SOFTWARE: Patentin version 3.3
TYPE: PRI
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Publication No. US20040002138A1
GENERAL INFORMATION:
APPLICANT: SASAKI, KATSUTOSHI
                                                                                                                                              Sequence 3, Application US/10501930 Publication No. US20060057696A1 GENERAL INFORMATION:
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Best Local Similarity
Matches 328; Conserv
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DNFRAKLASCCDAIQDFVVSQNNTPVGTNMSYEVES 158
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FLRSIGKFWKSRGIHAKRLSTGLFLVSAALGLCEEV 290
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43.3%; Pred. No. 2.5e-57;
tive 60; Mismatches 107; Indels
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy dist
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DCK/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                      8/361,304A
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206A1el Polynucleotides from Atherogenic Cells and
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                  CTHER INFORMATION: Xaa equals and of the naturally occurring L-amino acids NAMEY/EX: NAMEY/EX: NAMEY/EX: LOCATION: (51) _ LOCATION: (51) _ LOCATION: (51) _ OTHER INFORMATION: Xaa equals and of the naturally occurring L-amino acids US-10-106-698-5484
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                                                                                                                                                                     12.9%; Scare 272; DB 4; Length 12
52.9%; Pred. No. 1.6e-17;
tive 14; Mismatches 27; Indels
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d. No. 1.7e-13;
Mismatches 4;
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APPLICANT: Mehraban, Fuad,
APPLICANT: Mehraban, Fuad,
APPLICANT: Law, Debbie
APPLICANT: Law, Debbie
APPLICANT: Law, Debbie
TITLE OF INVENTION: No. US20020081206
TITLE OF INVENTION: No. US20020081206
TITLE OF INVENTION: No. US20020081206
TITLE OF INVENTION: No. US20020081206
TITLE OF INVENTION: No. US200206
TITLE OF INVENTION: NOWBER: US/09/867
CURRENT FILING DATE: 2000-05-30
PRIOR PILING DATE: 2000-05-30
NUMBER OF SEQ ID NOS: 2125
SOFTWARE: PRACESEQ for Windows Vermion 1500
LENGTH: 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 347, Application US/09989
Patent No. US20020072067A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                         28 FWKSRGXHAKRLSTGLFLVSAL
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Grimaldi, J.Christophes
Gurney, Austin L.
                                                                                                                                                                                                                                                                                                                                                  370 HOMPKEYSOMLOLHMRGILKLO
                                                                                                                                                                                                                                                                                                                                                                        88 HAMPEEFLÖLWYLHKIGALRMOI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 1960, Application US/0986
Patent No. US20020082206Al
                                                                                                                                                                                                                                                              310 FWRTKGVTAYRLSTGLMIASVA
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                                                                                                                                                                                                                46; Conservative 14;
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Best Local Similarity 86.0%;
Matches 43; Conservative
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Gerritsen, Mary E.
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Botstein, David
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ORGANISM: Homo sapiens
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NAME/KEY: MISC_FEATURE
                                                                                                                                                                                       Best Local Similarity
Matches 46; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
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APPLICANT:
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APPLICANT:
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APPLICANT:
APPLICANT:
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Sequence 5484, Application US/10106698
Sublication No. US20030109690A1
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
CURRENT Ruben et al.
TITLE OF INVENTION: Colon and Colon Cancer Associated Polymucleotides and Polypeptide
FILE REFERENCE: PA005P1
CURRENT APPLICATION NUMBER: US/10/106,698
CURRENT FILING DATE: 2002-03-27
PRIOR APPLICATION NUMBER: US 60/157,137
PRIOR FILING DATE: 1999-09-29
PRIOR APPLICATION NUMBER: US 60/157,137
PRIOR APPLICATION NUMBER: US 60/163,280
PRIOR APPLICATION NUMBER: US 60/163,280
                                      APPLICANT: Testi, Roberto
TITLE OF INVENTION: USE OF GD3-SYNTHASE-INHIBITORS FOR THE TREATMENT OF
TITLE OF INVENTION: USE OF GD3-SYNTHASE-INHIBITORS
TITLE OF INVENTION: GD3-SYNTHASE-INHIBITORS
TITLE OF INVENTION: GD3-SYNTHASE-INHIBITORS
FILE REFERENCE: M/40289
CURRENT APPLICATION NUMBER: US/10/169,989
CURRENT PILING DATE: 2002-10-04
PRIOR APPLICATION NUMBER: PCT/EP00/12224
PRIOR APPLICATION NUMBER: PCT/EP00/12224
NUMBER OF SEQ ID NOS: 3
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRANTEN: Homo sapiens
FRATURE:
INCATION: (25)
OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
NAME/KEY: MISC_PEATURE
LOCATION: (34)
OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99 SEDDYLQTITNIORCPWNRQAEEYDNFRAKLASCCDAIQDFVVSQNNTPVGTNMSYEVES 158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              159 KKHIPIRENIFHMFPVSQPFVDYPYNQCAVVGNGGILNKSLCGAEIDKSDFVFRCNLPPI 218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    219 TGSASKDVGSKTNLVTVNPSIITLKYQNLKEKKAQFLEDISTYGDAFLLLPPAFSYRANTG 278
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7
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    Schenkel, Johannes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: Patentin Ver. 3.0
SEQ ID NO 5484
LENGTH: 122
                                                                                                                                                                                                                                                                                                                                                                                                                      33.2%
Best Local Similarity 43.3%
Matches 129; Conservative
                      Kleber, Susanne
Testi, Roberto
                                                                                                                                                                                                                                                                                                                               TYPE: PRT
ORGANISM: Homo sapiens
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-10-106-698-5484
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R FILING DATE: 1998-06-11

R FILING DATE: 1998-06-11

R APPLICATION NUMBER: 60/0898

R FILING DATE: 1998-06-11

R APPLICATION NUMBER: 60/0891

R FILING DATE: 1998-06-12

R FILING DATE: 1998-06-16

R APPLICATION NUMBER: 60/089519

R FILING DATE: 1998-06-16

R APPLICATION NUMBER: 60/089519

R APPLICATION NUMBER: 60/089519

R APPLICATION NUMBER: 60/089519

R APPLICATION NUMBER: 60/089519

R APPLICATION NUMBER: 60/089519

R APPLICATION NUMBER: 60/089519
                                                                                     R FILING DATE: 1998-06-10
R APPLICATION NUMBER: 60/0888.4
R FILING DATE: 1998-06-10
R APPLICATION NUMBER: 60/0888.5
R FILING DATE: 1998-06-10
R APPLICATION NUMBER: 60/0888.8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: 60/08960
FILLING DATE: 1998-06-17
APPLICATION NUMBER: 60/08965
FILLING DATE: 1998-06-17
APPLICATION NUMBER: 60/08980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE: 1998-06-17
APPLICATION NUMBER: 60/0895:
FILING DATE: 1998-06-17
APPLICATION NUMBER: 60/08955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PILING DATE: 1998-06-17
APPLICATION NUMBER: 60/0895:
FILING DATE: 1998-06-17
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APPLICATION NUMBER: 60/0899(
FILING DATE: 1998-06-18
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APPLICATION NUMBER: 60/08994
FILING DATE: 1998-06-19
APPLICATION NUMBER: 60/08999
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FILING DATE: 1998-06-22
APPLICATION NUMBER: 60/09025
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APPLICATION NUMBER: 60/09042
FILING DATE: 1998-06-24
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FILING DATE: 1998-06-24
APPLICATION NUMBER: 60/09044
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APPLICATION NUMBER: 60/0899
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APPLICATION NUMBER: 60/0902
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APPLICATION NUMBER: 60/0903
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APPLICATION NUMBER: 60/0903
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APPLICATION NUMBER: 60/0905
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CURRENT FILING DATE: 2001-11-19
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PRIOR FILING DATE: 1997-06-16
PRIOR FILING DATE: 1997-06-16
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PRIOR FILING DATE: 1997-10-17
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PRIOR FILING DATE: 1997-11-12
PRIOR FILING DATE: 1997-11-13
PRIOR FILING DATE: 1997-11-13
PRIOR FILING DATE: 1997-11-24
PRIOR APPLICATION NUMBER: 60/06570
PRIOR PILING DATE: 1998-02-25
PRIOR FILING DATE: 1998-03-20
PRIOR FILING DATE: 1998-03-20
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PRIOR FILING DATE: 1998-05-07
PRIOR PELING DATE: 1998-05-08
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PRIOR PILING DATE: 1998-06-02
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PRIOR APPLICATION NUMBER: 60/087609
PRIOR PILING DATE: 1998-06-02
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KIOR APPLICATION NUMBER: 60/088021
KIOR FILING DATE: 1998-06-04
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IOR APPLICATION NUMBER: 60/088028
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FILING DATE: 1998-66-04
PPLICATION NUMBER: 60/088030
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APPLICATION NUMBER: 60/088202
FILING DATE: 1998-06-05
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APPLICATION NUMBER: 60/088326
FILING DATE: 1998-06-04
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APPLICATION NUMBER: 60/088212
FILING DATE: 1998-06-05
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APPLICATION NUMBER: 60/088738
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                                                                                  Roy, Margaret Ann
Stewart, Timothy A.
Tumas, Daniel
Matanabe, Colin K.
Williams, P. Mickey
Wood, William I.
                                                       Paoni, Nicholas F.
Napier, Mary A.
Pan, James
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APPLICANT: Watenabe, Colin K.
APPLICANT: Williams, P. Mickey
APPLICANT: Williams, P. Mickey
APPLICANT: Williams, P. Mickey
APPLICANT: Wood, William I.
APPLICANT: Wood, William I.
APPLICANT: Wood, William I.
APPLICANT: Slang, Zemin
TITLE OF INVENTION: Secreted and Traffic OF INVENTION: DATE: 2001-11-19
FRICK PILING DATE: 2001-11-19
FRICK FILING DATE: 1997-11-13
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R FILING DATE: 1996-06-04
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PILING DATE: 1998-06-05
                                                                                                                   Grimaldi, J. Christophe
                                                                                                                                                                                                                                                                                                                      Roy, Margaret Ann
Stewart, Timothy A.
                                                                                                                                                                                                                    Napier, Mary A.
Pan, James
Paoni, Nicholas F.
                 Gerritsen, Mary E.
Goddard, Audrey
                                                                                                                                                  Gurney, Austin L.
Kljavin, Ivar J.
                                                                                   Godowski, Paul
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10.5%; Score 221; DB 3; Length 600;
Best Local Similarity 30.3%; Pred. No. 1.2e-11;
Matches 69; Conservative 35; Mismatches 96; Indels
PRIOR APPLICATION NUMBER: 60/090542
PRIOR APPLICATION NUMBER: 60/090557
PRIOR PILING DATE: 1998-06-24
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i. Sequence 347, Application US/09989723

i. Patent No. US20020072092A1

j. GENERAL INFORMATION:
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PRIOR APPLICATION NUMBER: 60/092182
PRIOR FILING DATE: 1998-07-09
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APPLICANT: Baker, Kevin P.
APPLICANT: Botstein, David
APPLICANT: Betsein, David
APPLICANT: Baton, Dan L.
APPLICANT: Faron, Dan L.
APPLICANT: Pong, Sherman
APPLICANT: Gerber, Hanspeter
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Matches
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1. No. 1.2e-11;
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                                                     R FILING DATE: 1998-06-24
R APPLICATION NUMBER: 60/090543
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R APPLICATION NUMBER: 60/09069
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R APPLICATION NUMBER: 60/090695
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R APPLICATION NUMBER: 60/090863
R FILING DATE: 1998-06-26
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R APPLICATION NUMBER: 60/091367
R APPLICATION NUMBER: 60/091478
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R PILING DATE: 1998-07-02
R APPLICATION NUMBER: 60/091670
R PILING DATE: 1998-07-02
R APPLICATION NUMBER: 60/091978
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11 Similarity 30.3%; Presi
69; Conservative 35;
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Patent No. US20020072496A1
GENERAL INPORMATION:
APPLICANT: Ashkenazi, Avi J.
APPLICANT: Baker. Revin P.
APPLICANT: Botstein, David
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         186 CAVVGNGGILNKSLCGARIDKSI
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FILING DATE: 1998-07-01
APPLICATION NUMBER: 60/0915/
FILING DATE: 1998-07-02
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FILING DATE: 1998-07-07
APPLICATION NUMBER: 60/09218
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Matches 69; Conserv
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REPLING DATE: 1998-06-05

RAPPLICATION NUMBER: 60/088518

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REPLING DATE: 1998-06-09

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RAPPLICATION NUMBER: 60/089518
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APPLICATION NUMBER: 60/0904:
FILING DATE: 1998-06-24
                                                APPLICANT: Watanabe, Colin K.
APPLICANT: Watanabe, Colin K.
APPLICANT: Watanabe, Colin K.
APPLICANT: Williams, P. Mickey
APPLICANT: Wood, William I.
APPLICANT: Sand, Seminary Caminary
TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic
TITLE OF INVENTION: Acids Encoding the Same
TITLE OF INVENTION: Acids Encoding the Same
TITLE OF INVENTION: Acids Encoding the Same
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TITLE OF INVENTION: Acids Encoding the Same
TITLE OF INVENTION NUMBER: 60/06250
PRIOR FILING DATE: 1997-10-17
PRIOR PILING DATE: 1997-11-12
PRIOR PILING DATE: 1997-11-24
PRIOR FILING DATE: 1997-11-24
PRIOR PILING DATE: 1998-02-25
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PRIOR APPLICATION NUMBER: 60/088029
PRIOR PELING DATE: 1998-06-04
PRIOR FILING DATE: 1988-06-04
PRIOR FILING DATE: 1988-06-04
PRIOR APPLICATION NUMBER: 60/088030
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PRIOR APPLICATION NUMBER: 60/088033
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PRIOR APPLICATION NUMBER: 60/087759
PRIOR FILING DATE: 1998-06-02
PRIOR PLLICATION NUMBER: 60/087827
PRIOR PLLING DATE: 1998-06-03
PRIOR APPLICATION NUMBER: 60/088021
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FILING DATE: 1998-04-28
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FILING DATE: 1998-05-07
APPLICATION NUMBER: 60/087106
FILING DATE: 1998-05-28
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APPLICATION NUMBER: 60/088202
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Grimaldi, J. Christopher
Gurney, Austin L.
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Stewart, Timothy A.
Tumas, Daniel
                                                Ferrara, Napoleone
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                                                                                              Gerber, Hanspeter
Gerritsen, Mary E.
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Desnoyers, Luc
Eaton, Dan L.
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PRIOR FLILING DATE: 1997-06-16
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                                                                                                                                                                                                                                                                                                                                              Godowski, Paul J.
Grimaldi, J. Christophe
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Roy, Margaret Ann
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Williams, P. Mickey
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Gerritsen, Mary E.
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3R APPLICATION NUMBER: 60/090445

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3R APPLICATION NUMBER: 60/090535

3R FILING DATE: 1998-06-24

3R APPLICATION NUMBER: 60/090540

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DR FILING DATE: 1998-07-01
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PRIOR FILING DATE: 1998-07-09
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; Sequence 347, Application US/09989727

RESULT 10 US-09-989-727-347

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Best Local Similarity 30.3%;
Matches 69; Conservative 35 셤 g 염 ò ò ò

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FILING DATE: 1998-06-19
APPLICATION NUMBER: 60/089997
FILING DATE: 1998-06-19
APPLICATION NUMBER: 60/0902-6
FILING DATE: 1998-06-22
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R APPLICATION NUMBER: 60/08886-
R FILING DATE: 1998-06-11
R APPLICATION NUMBER: 60/08887-
R FILING DATE: 1998-06-11
R APPLICATION NUMBER: 60/08910-
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R APPLICATION WUMBER: 60/089801
R APPLICATION WUMBER: 60/089907
R PILING DATE: 1998-06-18
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APPLICATION NUMBER: 60/0895
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APPLICATION NUMBER: 60/08966
FILING DATE: 1998-06-17
APPLICATION NUMBER: 60/08969
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APPLICATION NUMBER: 60/0902
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APPLICATION NUMBER: 60/0895:
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APPLICATION NUMBER: 60/0895:
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APPLICATION NUMBER: 60/0895
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FILING DATE: 1998-06-16
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APPLICANT: Watanabe, Colin K.
APPLICANT: Williams, P. Mickey
APPLICANT: Wood, William I.
APPLICANT: Zhang, Zemin
TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic
TITLE OF INVENTION: Acids Encoding the Same
TITLE OF INVENTION: Acids Encoding the Same
TITLE OF INVENTION: Acids Encoding the Same
CURRENT APPLICATION NUMBER: US/09/989,731
CURRENT FILING DATE: 2001-11-20
PRIOR FILING DATE: 1997-06/98787
PRIOR FILING DATE: 1997-06250
PRIOR FILING DATE: 1997-10-17
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PRIOR PELLING DATE: 1998-06-02
PRIOR APPLICATION NUMBER: 60/08727
PRIOR APPLICATION NUMBER: 60/088021
PRIOR PELLING DATE: 1998-06-04
PRIOR FILING DATE: 1998-06-04
PRIOR FILING DATE: 1998-06-04
PRIOR APPLICATION NUMBER: 60/088026
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PRIOR PELLING DATE: 1998-06-04
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PRIOR PILING DATE: 1997-11-12
PRIOR PILING DATE: 1997-11-13
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PRIOR APPLICATION NUMBER: 60/066770
PRIOR APPLICATION NUMBER: 60/066770
PRIOR APPLICATION NUMBER: 60/075945
PRIOR APPLICATION NUMBER: 60/075910
PRIOR FILING DATE: 1998-02-25
PRIOR PELING DATE: 1998-03-20
PRIOR PILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/083322
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PRIOR FILING DATE: 1998-05-07
PRIOR APPLICATION NUMBER: 60/087106
PRIOR FILING DATE: 1998-05-28
PRIOR APPLICATION NUMBER: 60/087607
PRIOR FILING DATE: 1998-06-02
PRIOR APPLICATION NUMBER: 60/087607
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Sequence 347, Application US/09989731
Patent No. US20020103125A1
GENERAL INFORMATION:
APPLICANT: Ashkenazi, Avi J.
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APPLICATION NUMBER: 60/087759
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APPLICATION NUMBER: 60/088029
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Grimaldi, J.Christopher
Gurney, Austin L.
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Roy, Margaret Ann
Stewart, Timothy A.
Tumas, Daniel
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Gerber, Hanspeter
Gerritsen, Mary E.
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Botstein, David
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Eaton, Dan L.
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TITLE OF INVENTION: Secreted and Transport of INVENTION: Acids Encoding 1 FILE REPERRICE: P2730PIC57
CURRENT APPLICATION NUMBER: US/09 989
CURRENT FILING DATE: 2001-11-19
PRIOR PILING DATE: 1997-06-16
PRIOR APPLICATION NUMBER: 60/049787
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PRIOR APPLICATION NUMBER: 60/06225
PRIOR PILING DATE: 1997-10-17
PRIOR PILING DATE: 1997-11-12
PRIOR PILING DATE: 1997-11-12
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R APPLICATION WUMBER: 60/0876C9
F APPLICATION WUMBER: 60/087789
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R FILING DATE: 1998-06-02
R FILING DATE: 1998-06-03
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Patent No. US20020123463A1
GENERAL INFORMATION:
APPLICANT: Ashkenazi, Avi J.
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APPLICATION NUMBER: 60/0846
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APPLICATION NUMBER: 60/0880
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APPLICATION NUMBER: 60/0876
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Wood, William I.
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Stewart, Timothy A.
Tumas, Daniel
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Gerber, Hanspeter
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Goddard, Audrey
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DR FILING DATE: 1998-07-02

DR APPLICATION NUMBER: 60/091544

DR FILING DATE: 1998-07-01

DR APPLICATION NUMBER: 60/091519

DR APPLICATION NUMBER: 60/091626

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DR APPLICATION DATE: 1998-07-02
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R APPLICATION NUMBER: 60/090435
R FILING DATE: 1998-06-24
A PAPLICATION NUMBER: 60/090444
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R APPLICATION NUMBER: 60/090445
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R FILING DATE: 1998-06-24
A PAPLICATION NUMBER: 60/090676
R FILING DATE: 1998-06-25
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FILING DATE: 1998-06-25
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APPLICATION NUMBER: 60/090472
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FILING DATE: 1998-06-25
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APPLICATION NUMBER: 60/090862
FILING DATE: 1998-06-26
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FILING DATE: 1998-06-26
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PRIOR APPLICATION NUMBER: 60/091633
PRIOR FILING DATE: 1998-07-02
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PRIOR FILING DATE: 1998-07-07
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PRIOR FILING DATE: 1998-07-07
PRIOR PPLICATION NUMBER: 60/092182
PRIOR FILING DATE: 1998-07-09
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Best Local Similarity 30.3*
Matches 69; Conservative
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R APPLICATION NUMBER: 60/08801
R FILING DATE: 1998-06-04
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REPLING DATE: 1998-06-04

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FILING DATE: 1998-06-11
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APPLICATION NUMBER: 60/0895:
FILING DATE: 1998-06-16
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FILING DATE: 1998-06-17
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FILING DATE: 1998-06-10
APPLICATION NUMBER: 60/0887;
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APPLICATION NUMBER: 60/0888
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APPLICATION NUMBER: 60/0888;
FILING DATE: 1998-06-10
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FILING DATE: 1998-06-10
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APPLICATION NUMBER: 60/0888
FILING DATE: 1998-06-11
APPLICATION NUMBER: 60/0891
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FILING DATE: 1998-06-17
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FILING DATE: 1998-06-17
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FILING DATE: 1998-06-17
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FILING DATE: 1998-06-18
APPLICATION NUMBER: 60/0899
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APPLICATION NUMBER: 60/0899
FILING DATE: 1998-06-18
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APPLICATION NUMBER: 60/0894
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424 ILGNRGFRONVPLGKDVRYLHFLEGTRDYEWLEALLANQTVMSKNLFWFRHRPQEAFREAL 483
                                                                    292 MROKVLFFHPRYLRHLA-LFWRTKGVTA----YRLSTGLMIASVAVELCENVKLYGFWP 345
                                                                                                   APPLICANT: Zhang, Zemin
TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic
TITLE OF INVENTION: Acids Encoding the Same
FILE REFERENCE: P2730P1C15
                                                                                                                                                                     346 FSKTIEDTPLSHHYYDNMLPKHGF---HQMPKEYSQMLQLHMRGILKL 390
                                                                                                                                                                                              --ITEGHERFSDHYYDTSWKRLIFYINHDFKLEREVWKRLHDEGIIRL 587
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PRIOR FILING DATE: 1997-06-16
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PRIOR FILING DATE: 1997-10-17
PRIOR PILING DATE: 1997-11-12
PRIOR APPLICATION NUMBER: 60/06531
PRIOR APPLICATION NUMBER: 60/06531
PRIOR FILING DATE: 1997-11-13
PRIOR FILING DATE: 1997-11-13
PRIOR APPLICATION NUMBER: 60/065770
PRIOR PILING DATE: 1997-11-24
PRIOR APPLICATION NUMBER: 60/065770
PRIOR APPLICATION NUMBER: 60/075945
PRIOR FILING DATE: 1998-02-25
                                                                                                                                                                                                                                                                                                                                       Sequence 347, Application US/09991073
Patent No. US20020127576A1
GENERAL INFORMATION:
APPLICANT: Ashkenazi, Avi J.
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RIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/083322
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PRIOR FILING DATE: 1998-05-07
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PRIOR APPLICATION UNDBER: 60/087607
PRIOR APPLICATION NUMBER: 60/087609
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FILING DATE: 1998-06-02
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Williams, P. Mickey
Wood, William I.
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Stewart, Timothy A.
Tumas, Daniel
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Goddard, Audrey
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Eaton, Dan L.
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                                                                                                                               TRDYEWLEALLMNQTVMSKNLFWFRHRPQEAFREAL 483
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TITLE OF INVENTION: Secreted and Tans
TITLE OF INVENTION: Acids Encoding th
FILE REFERENCE: P2730PL08
CURRENT APPLICATION NUMBER: US/09/990,
CURRENT FILING DATE: 1997-06-16
PRIOR FILING DATE: 1997-06-16
PRIOR APPLICATION NUMBER: 60/04576
PRIOR PILING DATE: 1997-10-17
PRIOR APPLICATION NUMBER: 60/065165
PRIOR PILING DATE: 1997-11-13
PRIOR PILING DATE: 1997-11-13
PRIOR PLING DATE: 1997-11-13
PRIOR PLING DATE: 1997-11-24
PRIOR PLING DATE: 1997-11-24
PRIOR PLING DATE: 1998-02-25
PRIOR PILING DATE: 1998-02-26
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Patent No. US20020132252A1
GENERAL INFORMATION:
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     CAVVGNGGILNKSLCGARIDKSD
                                                                                                                                            424 ILGNRGFKNVPLGKDVRYLHFLH
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Gurney,Austin L.
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Roy, Margaret Ann
Stewart, Timothy A.
Tumas, Daniel
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Williams, P. Mickey
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Fong, Sherman
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Goddard, Audrey
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                 R FILING DATE: 1998-06-19
R APPLICATION NUMBER: 60/089952
R FILING DATE: 1998-06-19
R APPLICATION NUMBER: 60/090246
R FILING DATE: 1998-06-22
R APPLICATION NUMBER: 60/090252
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R FILING DATE: 1998-06-24
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R APPLICATION NUMBER: 60/090435
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R APPLICATION NUMBER: 60/090535
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R APPLICATION NUMBER: 60/090695
R FILING DATE: 1998-06-25
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R APPLICATION NUMBER: 60/090863
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R PELLING DATE: 1998-07-01

R PTLING DATE: 1998-07-01

R APPLICATION NUMBER: 60/091478

R FILING DATE: 1998-07-02

R APPLICATION NUMBER: 60/091544

R APPLICATION NUMBER: 60/091544
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APPLICATION NUMBER: 60/090557
FILING DATE: 1998-06-24
APPLICATION NUMBER: 60/090676
FILING DATE: 1998-06-25
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APPLICATION NUMBER: 60/091626
FILING DATE: 1998-07-02
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FILING DATE: 1998-07-07
APPLICATION NUMBER: 60/092182
FILING DATE: 1998-07-09
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APPLICATION NUMBER: 60/090254
FILING DATE: 1998-06-22
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FILING DATE: 1998-06-25
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APPLICATION NUMBER: 60/091519
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APPLICATION NUMBER: 60/090355
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APPLICATION NUMBER: 60/090429
FILING DATE: 1998-06-24
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APPLICATION NUMBER: 60/090542
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R FILING DATE: 1998-06-02
R APPLICATION NUMBER: 60/087609
R FILING DATE: 1998-06-02
R PLLING DATE: 1998-06-02
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APPLICATION NUMBER: 60/08806-67
RILING DATE: 1998-06-04
APPLICATION NUMBER: 60/08808
PILING DATE: 1998-06-04
APPLICATION NUMBER: 60/08808
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R APPLICATION NUMBER: 60/088810
R FILING DATE: 1998-06-10
R APPLICATION NUMBER: 60/0888-4
R FILING DATE: 1998-06-10
R APPLICATION NUMBER: 60/0888-6
                    APPLICATION NUMBER: 60/0871.
FILING DATE: 1998-05-28
APPLICATION NUMBER: 60/0876
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FILING DATE: 1998-06-04
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APPLICATION NUMBER: 60/08803
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APPLICATION NUMBER: 60/0880:
FILING DATE: 1998-06-04
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FILING DATE: 1998-06-04
APPLICATION NUMBER: 60/0881
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FILING DATE: 1998-06-05
APPLICATION NUMBER: 60/08821
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APPLICATION NUMBER: 60/08865
FILING DATE: 1998-06-09
APPLICATION NUMBER: 60/0887
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APPLICATION NUMBER: 60/0888
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FILING DATE: 1998-06-11
APPLICATION NUMBER: 60/0891(
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APPLICATION NUMBER: 60/0895:
FILING DATE: 1998-06-17
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APPLICATION NUMBER: 60/08960
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APPLICATION NUMBER: 60/0882
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APPLICATION NUMBER: 60/0888
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FILING DATE: 1998-06-16
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FILING DATE: 1998-06-16
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TITLE OF INVENTION: Screted and Transmembrane Polypeptides and Nucleic
TITLE OF INVENTION: Acids Encoding the Same
FILE REPERRNCE: P2730P1C17
CURRENT APPLICATION NUMBER: US/09/991,163
CURRENT FILING DATE: 2001-11-14
PRIOR FILING DATE: 1997-06-16
PRIOR FILING DATE: 1997-06-16
PRIOR FILING DATE: 1997-10-17
PRIOR APPLICATION NUMBER: 60/06250
PRIOR PILING DATE: 1997-11-12
PRIOR PILING DATE: 1997-11-12
PRIOR PILING DATE: 1997-11-13
                                                                                                                                                           186 CAVVGNGGILMKSLCGAEIDKSDFVFRCNLPPITGSASKDVGSKTNL----VTVNPSII 240
                                                                                                                                                                                                 292 MROKVLFFHPRYLRHLA-LFWRTKGVTA----YRLSTGLMIASVAVELCENVKLYGFWP 345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241 TLKYQNLKE-----KKRAQFLEDISTYG--DAFLLLPAFSYRANTGISFKVYQTLKESK 291
                                                                                                                                                                                                                                                                                                                                                         424 ILGNRGFKNVPLGKDVRYLHFLEGTRDYEWLEALLMNOTVMSKNLFWFRHRPQEAFREAL 483
                                                                                                28; Gaps
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                        Query Match
10.5%; Score 221; DB 3; Length 600;
Best Local Similarity 30.3%; Pred. No. 1.2e-11;
Matches 69; Conservative 35; Mismatches 96; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 347, Application US/09991163
Patent No. US20020132253A1
GENERAL INFORMATION:
APPLICANT: Ashkenazi, Avi J.
APPLICANT: Baker, Kevin P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION NUMBER: 60/066770
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Gurney, Austin L.
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Roy, Margaret Ann
Stewart, Timothy A.
Tumas, Daniel
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Williams, P. Mickey
Wood, William I.
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KGVTA----YRLSTGLMIASVAVELCENVKLYGFWP 345
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                                                                                                                                                                                                                                                                                                       241 TLKYQNLKE-----KKAQFL#DISTYG--DAFLLLPAFSYRANTGISFKVYQTLKESK 291
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10.5%; Score 221; DB 3; Length 60.
Best Local Similarity 30.3%; Pred. No. 1.2e-11;
Matches 69; Conservative 35; Mismatches 96; Indels
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Job time : 186 secs
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                                                                                                                                                                                                                       186 CAVVGNGGILNKSLCGAEIDKS
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484 HMDRYLLLHPDFLRYMKNRFLR
PRIOR FILING DATE: 1998-07-07
PRIOR APPLICATION NUMBER: 60/09198
PRIOR FILING DATE: 1998-07-07
PRIOR APPLICATION NUMBER: 60/09218
PRIOR FILING DATE: 1998-07-09
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GenCore version 5.1.8
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OM protein - protein search, using sw model

May 26, 2006, 23:43:21; Search time 15 Seconds (without alignments) 295.511 Million cell updates/sec Run on:

US-10-501-930-1 2102 1 MRSGGTLFALIGSLMLLLLL.......MLQLHNRGILKLQFSKCETA 398 Title: Perfect score:

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56051 seqs, 11137335 residues Searched:

Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Listing first 45 summaries Post-processing: Minimum Match 0% Maximum Match 100%

RESULT 1 US-10-953-349-22484

Database

Published Applications AA New:*

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

					SUMMAKIES		
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7	162.5	7.7	396	9	-10-953-34		
٣	162.5	7.7	414	9	US-10-953-349-22482	Sequence 22482, A	
4	159	7.6	331	9	US-10-505-928-321	Sequence 321, App	
ഗ	150.5	7.2	394	9	US-10-953-349-20496		
φ	150.5	7.2	419	9	US-10-953-349-20495		
7	150.5	7.2	435	9	US-10-953-349-20494	Sequence 20494, A	
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13	86.5	4.1	210	9	0-196-749-53	Sequence 536, App	
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17	84	4.0	228	9	US-10-953-349-18479	1847	
18	84	4.0	238	ø	US-10-953-349-18478	18478	
19	84	4.0	250	9	US-10-953-349-18477	18477	
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23	81	3.9	197	9	US-10-953-349-22878	22878	
24	81	3.9	319	9	US-10-953-349-22877	Sequence 22877, A	
25	81	3.9	341	9	US-10-953-349-22876	22876,	

RESULT 2
105-10-953-349-22483

| Sequence 22483, Application US/10953349
| Publication No. US20060107345A1
| GENERAL INFORMATION:
| APPLICANT: ALEXANDROW, Nickolai | TITLE OF INVENTION: SEQUENCE-BETERNINED DNA FRAGMENTS AND CORRESPONDING POLYPEPTIDES
| TITLE OF INVENTION: ENCONDED THERMY

FG-----KSTSAKHYHTNOKA

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Sequence 34, Appl	Sequence 1225, Ap	Sequence 19377, A	Sequence 22773, A		Seguence 19699, A		325,		418,	1, Ap		Sequence 27921, A	Sequence 27920, A	Sequence 3539, Ap	Sequence 310, App	30, 7	Sequence 35, Appl	12,	4087		
1-223-945-34	0-953-349-1225	0-953-349-19377	0-953-349-22773	0-953-349-19700	0-953-349-19699	10-953-349-19698	0-505-928-325	0-505-928-843	0-196-749-418	0-514-462-1	-293-697-2928	0-953-349-27921	0-953-349-27920	0-953-349-3539	0-505-928-310	-183-218-30	1-280-757-35	1-170-482-12	0-953-349-4087	GIGNMENTS	
US-1	US-1	US-1	us-1	us-1	ns-1	us-1	us-1	us-1	US-1	US-1	US-1				US-1	US-1	US-1	US-1	US-1	 12	
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529	276	458	505	265	297	325	3113	655	655	847	950	263	283	436	2215	2351	2351	721	303		
3.9	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.6	3.6		
81	80.5	80.5	80.5	79.5	79.5	79.5	79.5	78	78	78	77.5	77	77	77	77	77	77	76.5	92		
56	27	28	53	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45		

equence 22484, Application US/10953349 ubblication No. US20060107345A1 ENERAL INFORMATION: APPLICANT: ALEXANDROV, Nickolai et al. TITLE OF INVENTION: ENCONDED THERAY TITLE OF INVENTION: ENCONDED THERAY TITLE OF INVENTION: E1799US2 CURRENT APPLICATION NUMBER: US/10/953,349 CURRENT APPLICATION NUMBER: US/10/953,349 CURRENT PILING DATE: 2004-09-30 NUMBER OF SEQ ID NOS: 40252 SOFTWARE: Patentin version 3.3 EQ ID NO 22484 LENGTH: 252 TYPE: PRT ORGANISM: Glycine max	Score 162.5; DB 6; Length 252; Pred: No. 4.8e-07; 16; ismatches 84; Indels 39; Gaps 10;	183 YNQCAVVGNGGILMKSLCGABILKDPFRCNLPPITGSASKDVGSKTNLVTVNPSIITL 242 	243 KYQNLKEKKAQFLEDISTYGDAHALLPAFSYRANTGISFKYYQTLKESKWRQKVLFFHPR 302 	303 YLRHLALFWRTKGV : :::	GFHOMPKEYS 377
sequence 22484, Application US/1095349 ; Publication No. US20060107345A1 GENERAL INPORMATION: ; APPLICANT: ALEXANDROV, Nickolai et al. TITLE OF INVENTION: ENCONDED THERAY TITLE OF INVENTION: ENCONDED THERAY FILE REFERENCE: 2750-1579PUSZ CURRENT APPLICATON NUMBER: US/10/953,349; CURRENT FILING DATE: 2004-09-30 ; CURRENT FILING DATE: 2004-09-30 ; NUMBER OF SEQ ID NOS: 40252 ; SOFTWARE: PatentIn version 3.3 SEQ ID NO 22484 LENGTH: 252 TYPE: PRT ORGANISM: Glycine max US-10-953-349-22484	Query Match Best Local Similarity 26.0%; Pred. Matches 56; Conservative 36;	Qy 183 YNQCAVVGNGGILNKSLCGABILICS	Qy 243 KYONLKEKKAQFLEDISTYGDAKILI Db 88CARKGGCFCHPYGDR	Qy 303 YEMHLALFWRTKGU Db 136 FDVLCARIVKYYSLKRFVEESGY	Oy 343 FWPPSKTIEDTPLSHHYYDNMLEHGWFHQMPKRYS 377

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al.
IINED DNA FRAGMENTS AND CORRESPONDING POLYPEPTIDES
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ----STGLMIA 328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           208 TNGFWKKPALNLIYKPYQIRILDEPIRT---AAYELLHFPKVFPKNQKPKHPTTGIIAI 264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          265 TLAFYICHEVHLAGFKYNFSDL-#KSPL--HYYGNATMSLANKNAYHNVTAE-----QLF 315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                171 YSSCAVVGNSGILLNRNYGSEIDMHEVVIRLNNARVDHFETK-VGKKTSISFMNSNILHL 229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LLPAFSYRANTGISFKVYQTLKESKMRQKVLFFHPR 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DIPLSHHYYDN----MLPKHGFHQMPKEYSQMLQLH 383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EKIDSYDVIIRMNNGPVLGH-EEEVGRRTTFRLFYP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    238 SIITLKYONLKEKKAOPLEDIST#GDAFLLLPAFSYRANTGISFKVYOTLKESKMROKV-
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                                                                                                                                                                                                                                                                                                                                                                                                                          Length 331;
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                                                                                        et al.
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No. 9.8e-06;
Wismatches 86;
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Pred: No. 1.4e-06;
5; Mismatches of
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HELIAL GENES
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                                                                                 APPLICANT: Ludwig Institute for Carcer Resear TITLE OF INVENTION: LYMPHATIC ENDOMHELIAL GERFILE OF INVENTION: LYMPHATIC ENDOMHELIAL GERFILE OF INVENTION NUMBER: US/10/605,928 CURRENT FILING DATE: 2004-08-27 PRIOR PILING DATE: 2002-03-07 NUMBER OF SEQ ID NOS: 866 SOFTWARE: Patentin 3.2 LENGTH: 331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION: SEQUENCE-DETERING TITLE OF INVENTION: SEQUENCE-DETERING TITLE OF INVENTION: ENCONDED THERAY FILE VERENCE: 2750-1579PUS2 CURRENT APPLICATION NUMBER: US/10/53 CURRENT FILING DATE: 2004-09-30 NUMBER OF SEQ ID NOS: 40252 SOFTWARE: Patentin version 3.3 SEQ ID NO 20496 LENGTH: 394
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                    Sequence 321, Application US/1050598 Publication No. US20060088532A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 20496, Application US/10958; Publication No. US20060107345A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            110 FDNIPCKKCVVVGNGGVLKNKTL
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1 Similarity 25.1%; Pr
54; Conservative 36;
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Best Local Similarity 25.6%;
Matches 63; Conservative 35
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US-10-505-928-321
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; ORGANISM: Glycine max
US-10-953-349-20496
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Best Local Similarity
Matches 54; Conserv
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TITLE OF INVENTION: SEQUENCE-EFTERMINED DNA FRAGMENTS AND CORRESPONDING POLYPEPTIDES
TITLE OF INVENTION: ENCONDED THERBY
FILE REPERENCE: 2750-15799US2
CURRENT APPLICATION VNDBER: US/10/953,349
CURRENT FILING DATE: 2004-09-30
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                                                                                                                                                                                                                                                                                                                                        242
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              280 FDVLCARIVKYYSLKRFVEESGKGLEKWGEAHDGSLFHYSSGMQAVMLALGICDRVSIFG 339
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                                                                                                                                                                                                                                                                                                                                                                                231
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                                                                                                                                                                                                                                                                                                                                                                  183 YNQCAVVGNGGILNKSLCGAEIDKSDFVFRCNLPPITGSASKDVGSKTNLVTVNPSIITL
                                                                                                                                                                                                                                                                                                                                                                                                                              243 KYONLKEKKAOFLEDISTYGDAFLLLPAFSYRANTGISFKVYQTLKESKMRQKVLFFHPR
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                                                                                                                                                                                                                                               7.7%; Score 162.5; DB 6; Length 396; larity 26.0%; Pred. No. 9e-07; Conservative 36; Mismatches 84; Indels 39
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7.7%; Score 162.5; DB 6; Length 414;
Best Local Similarity 26.0%; Pred. No. 9.6e-07;
Matches 56; Conservative 36; Mismatches 84; Indels 39
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FILE REFERENCE: 2750-1579PUS2
CURRENT PEDLICATION NUMBER: US/10/953,349
CURRENT FILING DATE: 2004-09-30
NUMBER OF SEQ ID NOS: 40252
SOFTWARE: PatentIn version 3.3
SEQ ID NO 22483
LENGTH: 396
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Publication No. US20060107345A1
GENERAL INFORMATION:
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SEQ ID NO 22482
LENGTH: 414
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Matches 56; Conserv
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-VPIVMYICQ-AVHFLDY-TVCNASHKAPLLVTDPR 318
                       SDFVFRCNLPPITGSASKDVGSKTNLVTVNPSIITL 242
                                                                                                                                     LLPAFSYRANTGISFKVYQTLKESKMROKVLFFHPR 302
                                                                                                                                                                                                                                                   -----TAYRLSTGLMIASVAVELCENVKLYG 342
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d. No. 1.2e-05;
Mismatches 107; Indels 106;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: SECRETED AND RANGHEMBRAA TITLE OF INVENTION: ACIDS ENCODIG THE SAME FILE REPERENCE: P3430R1C34 OCURENT APPLICATION NUMBER: US/10 196,749 CURRENT APPLICATION NUMBER: US/2014 OCURENT FILING DATE: 2002-07-16 PRIOR PELING DATE: 2002-01-15 PRIOR PELING DATE: 2002-01-15 PRIOR PLING DATE: 1997-09-18 PRIOR FILING DATE: 1997-09-18 PRIOR FILING DATE: 1997-09-18 PRIOR PLING DATE: 1997-09-18 PRIOR PLING DATE: 1997-09-18 PRIOR PLING DATE: 1997-09-18 PRIOR PLING DATE: 1997-10-24 PRIOR PLING DATE: 1997-10-24 PRIOR PLING DATE: 1997-10-24 PRIOR PLING DATE: 1997-10-24 PRIOR PLING DATE: 1997-10-24 PRIOR PLING DATE: 1997-10-24 PRIOR PLING DATE: 1997-10-24 PRIOR PLING DATE: 1997-10-24 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1997-10-28 PRIOR PLING DATE: 1
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Publication No. US20060094864A1
GENERAL INFORMATION:
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Best Local Similarity 21.7%; Pre
Matches 73; Conservative 50;
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319 FDVLCARIVKYYSLKRFVEESG
                                                                                                                                                                                                                                                                                                                                                                    343 FWPFSKTIEDTPLSHHYYDNML
                             183 YNQCAVVGNGGILNKSLCGAEI
                                                                                                                                     243 KYQNLKEKKAQFLEDISTYGDA
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Gurney, Austin L.
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Smith, Victoria
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Publication No. US20060107345A1
GENERAL INFORMATION:
APPLICANT: ALEXANDROV, Nickolai et al.
APPLICANT: ALEXANDROV, Nickolai et al.
TITLE OF INVENTION: SEQUENCE-DETERMINED DNA FRAGMENTS AND CORRESPONDING POLYPEPTIDES TITLE OF INVENTION: ENCONDED THERBY
FILE REFERENCE: 2756-1579FUS2
CURRENT APPLICATION NUMBER: US/10/953,349
CURRENT PILING DATE: 2004-09-30
NUMBER OF SEQ ID NOS: 40252
SOPTWARE: Patentin version 3.3
                                                                                                                                                                                                                                                                                                                                               Sequence 20095, Application US/10953349
Publication No. US20060107345A1
GENERAL INFORMATION:
APPLICANT: ALEXANDRO, Nickolai et al.
APPLICANT: ALEXANDRO, Nickolai et al.
TITLE OF INVENTION: SEQUENCE-DEFERMINED DNA FRAGMENTS AND CORRESPONDING POLYPEPTIDES
TITLE OF INVENTION: ENCONDED THERBY
FILE REFERENCE: 2750-1579PUS2
CURRENT APPLICATION NUMBER: US/10/953,349
CURRENT APPLICATION NUMBER: US/10/953,349
NUMBER OF SEQ ID NOS: 40252
SOFTWARE: PATENTIN VETSION 3.3
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                                                        -----TAYRLSTGLMIASVAVELCENVKLYG 342
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                                                     303 Y-----LRHLAL--FWRTKGV---
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Best Local Similarity 25.1%;
Matches 54; Conservative 36
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Best Local Similarity 25.1%
Matches 54; Conservative
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CORGANISM: Glycine max
US-10-953-349-20495
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CORGANISM: Glycine max
US-10-953-349-20494
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LENGTH: 435
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GUGGILMKSLCGAEIDKSDFVFRCNLPPITGSASKD 225	al. nined dna Fragments and Corresponding PolyPeptides 87 953,349 naturally occurring amino acid	THE LUTELLY OCCULITING WHILLING THE NO. 0.0013; WISHMATCHES 82; INDELS FURRCULEPITGSASKDVGSKINLVTV EKKAQFLEDISTYGDAFLLLE COPALLDALICNATATPESPFLLLY TKESKMRQKVLFFHPRYLRHLALFWR PASNWTRHDERYFH PPSKTIEDTPLSHHYYDNALPKHGFH PASNWTRHDERYFH PPSKTIEDTPLSHHYYDNALPKHGFH APGAKHHYHTNOKKELDLIN	8349 al. MINED DNA FRAGMENTS AND CORRESPONDING POLYPEPTIDES
QY 166 ENIFHMFPVSQPFVDYPYNQCAV 2 EKLSI.VLPETPPYFPRQFRCAV QY 226 VGSKTNLVTVNPSIITLKYON Db (1 VGRKSTFRILINRGSAKALDKVVV QY 284 YQTLKSKARRQKVLFPHPRYLRY QY 284 YQTLKSKARRQKVLFPHPRYLRY QY 343 FNKMIREVPIKNPYLMI QY 343 FNKMIREVPIKNPYLMI Db 150 FTVDPGYKEWTRYFSESRQGH	RESULT 10 US-10-953-349-34787 Sequence 34787, Application US/1098 Sequence 34787, Application US/1098 Fublication No. US20060107345A1 GENERAL INFORMATION TITLE OF INVENTION: ENCUENCE-DETER TITLE OF INVENTION: ENCUENCE-DETER TITLE OF INVENTION: ENCUENCE-DETER TITLE OF INVENTION: ENCUENCE-DETER TITLE OF INVENTION: ENCUENCE-DETER TITLE OF INVENTION: ENCUENCE-DETER TITLE OF INVENTION: ENCUENCE-DETER TITLE OF INVENTION: AND THE : 2004-00-30 CURRENT APPLICATION NUMBER: US/10/ CURRENT FILING DATE: 2004-00-30 NUMBER OF SEQ ID NOS: 40252 SOFTWARE: PatentIn version 3.3 SEQ ID NO 34787 LENGTH: 40.1 TYPE: PRT TYPE: PRT FEATURE: NAME/KEY: misc_feature COCATION: (169). (169).	149-34787 6.0%; Sc atch in the antitation of the construction of t	US-10-953-349-34786 ; Sequence 34786, Application US/1099349 ; Publication No. US20060107345A1 ; GENERAL INFORMATION: ; APPLICANT: ALEXANDROV, Nickolai et al. ; TITLE OF INVENTION: SEQUENCE-DETERMINED DNA
Db 80 RYSVDLLPFVQKAPKDSEAESKYDPPFGFKKFSSKVQTLLELLP	Qy 358 HYYDNMLPKHGFHQMPKEYSQMLQUHMRGILK 389	TYPES PRT ORGANISM: Glycine max FEATURE: NAME/KEY: misc feature LOCATION: (1927)(1920) OTHER INFORMATION: Xaa can be any naturally occurring amino acid FEATURE: NAME/KEY: misc feature COCATION: (1987)(1980) OTHER INFORMATION: Xaa can be any naturally occurring amino acid FEATURE: NAME/KEY: misc feature COCATION: (2137)(213) OTHER INFORMATION: Xaa can be any naturally occurring amino acid FEATURE: NAME/KEY: misc feature COCATION: (2247)(224) OTHER INFORMATION: Xaa can be any naturally occurring amino acid FEATURE: NAME/KEY: misc feature LOCATION: (2297)(229) OTHER INFORMATION: Xaa can be any naturally occurring amino acid FEATURE: NAME/KEY: misc feature COCATION: (2297)(229) OTHER INFORMATION: Xaa can be any naturally occurring amino acid FEATURE: NAME/KEY: misc feature COCATION: (2477)(247) OTHER INFORMATION: Xaa can be any naturally occurring amino acid FEATURE: NAME/KEY: misc feature COTHER INFORMATION: Xaa can be any naturally occurring amino acid FEATURE: NAME/KEY: misc feature COTHER INFORMATION: Xaa can be any naturally occurring amino acid FEATURE: NAME/KEY: misc feature NAME/KEY: misc feature NAME/KEY: misc feature NAME/KEY: misc feature NAME/KEY: misc feature	; DOCATION: (2/2)(2/2); COTHER INFORMATION: Xaa can be any naturally occurring amino acid US-10-953-349-12052 Query Match Best Local Similarity 25.0%; Pred. No. 7.6e-05; Batches 59; Conservative 36; Mismatches 83; Indels 58; Gaps 10;

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Gaps

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DMQKPQGSLVRVIQRAGLVFPNMEAYAVSPGRMRQFD 190
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THE SAME
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CURRENT FILING DATE: 2002-07-16
PRIOR APPLICATION NUMBER: 10/05256
PRIOR FILING DATE: 1997-10-24
PRIOR APPLICATION NUMBER: 60/063466
PRIOR FILING DATE: 1997-10-21
PRIOR FILING DATE: 1997-10-26
PRIOR FILING DATE: 1997-10-26
PRIOR PILING DATE: 1997-10-28
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OR APPLICATION NUMBER: 60/059263

OR FILING DATE: 1997-09-18

OR APPLICATION NUMBER: 60/059263

OR PILING DATE: 1997-09-18

OR APPLICATION NUMBER: 60/062250

OR APPLICATION NUMBER: 60/062120

OR APPLICATION NUMBER: 60/063121

OR APPLICATION NUMBER: 60/063121

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131 LRRPQEFVNRTPETVFIFWGPPS
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Publication No. US20060094864A1
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APPLICATION NUMBER: 60/06348
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Watanabe, Colin K.
Wood, William I.
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Godowski, Paul J
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                                                                                                                                                                                                                                                                                                                                                ; ORGANISM: Homo Sapien
US-10-196-749-206
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ----FSYR---ANTGISFKVYQTLKESKMRQKVLFFHPRYLRHLALFWRTKGVTAYRLS 322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          323 TGLMIASVAVELCENVKLYGFW--PPSKTIEDTPLSHHYYDNMLPKHGFHQMPKEYSQML 380
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NAME/KEY: misc feature
LOCATION: (172)...(172)
OTHER INFORMATION: Xaa can be any naturally occurring amino acid
US-10-953-349-34786
                                                                                                                                                                                                                                                                                                                                                                                               6.0%; Score 126; DB 6; Length 404;
24.5%; Pred. No. 0.0013;
trive 23; Mismatches 82; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          292 RIAKYYSMRRFVAATG-----OPASNWTRRHDERYFH----
                           FILE REFERENCE: 2750-1579PUS2
CURRENT APPLICATION NUMBER: US/10/953,349
CURRENT FILING DATE: 2004-09-30
NUMBER OF SEQ ID NOS: 40252
SOFTWARE: Patentin version 3.3
SEQ ID NO 34786
LENGTH: 404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 206, Application US/10196749 Publication No. US20060094864A1 GENERAL INFORMATION:
            ENCONDED THERBY
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FILING DATE: 1997-10-24
APPLICATION NUMBER: 60/063121
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ORGANISM: Zea mays subsp. mays
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Wood, William I.
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Godowski, Paul J.
Gurney, Austin L.
                                                                                                                                                                                                                                                                                                                                                                                                  6.0%
Best Local Similarity 24.5%
Matches 60; Conservative
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Smith, Victoria
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chen, Jian
            TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            381 QLHMR 385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         378 DLQER 382
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   186 CAVVGNGGILNKSLCGAEIDKSDFVFRCNLPPITGSASKDVGSKTNLVTVNPSIITLKYQ 245
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                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
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                                                                                                                                                                                                                                                                                                                                                         DB 6; Length 210;
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                                                                                                                                                                                                                                                                                                                                                                                                           41; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    46; Indels
PRIOR APPLICATION NUMBER: 60/063540
PRIOR FILING DATE: 1997-10-28
PRIOR APPLICATION NUMBER: 60/063541
PRIOR FILING DATE: 1997-10-28
PRIOR FILING DATE: 1997-10-28
PRIOR APPLICATION NUMBER: 60/063544
PRIOR FILING DATE: 1997-10-28
PRIOR FILING DATE: 1997-10-28
PRIOR FILING DATE: 1997-16-28
PRIOR FILING DATE: 1997-110-28
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                                                                                                                                                                                                                                                                                                                                                       Query Match
4.1%; Score 86.5; DB
Best Local Similarity 28.6%; Pred. No. 1.4;
Matches 24; Conservative 18; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 3338, Application US/11293697
Publication No. US2006010537641
GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION: Novel full length CDNA
FILE REPERENCE: H1-A0106
CURRENT APPLICATION NUMBER: US/11/293,697
CURRENT FILING DATE: 2005-12-05
PRIOR APPLICATION NUMBER: US/10/108,260
PRIOR PELING DATE: 2005-12-05
NUMBER OF SEQ ID NOS: 5458
SOFTWARE: PATENTING DATE: 2005-03-28
NUMBER OF SEQ ID NOS: 5458
SOFTWARE: PATENTING DATE: 2005-03-28
NUMBER OF SEQ ID NOS: 5458
SOFTWARE: PATENTING DATE: 2018
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Publication No. US20060094864A1
GENERAL INFORMATION:
APPLICANT: Baker, Kevin P.
APPLICANT: Chen, Jian
APPLICANT: Goddard, Audrey
APPLICANT: Goddard, Audrey
APPLICANT: Godowski, Paul J.
APPLICANT: Gurney, Austin L.
APPLICANT: Sanith, Victoria
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116 EEDVGRMTMIRVVSHTSVPLLLKN 139
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US-11-293-697-3338
                                                                                                                                                                                                                                                                                ; ORGANISM: Homo Sapien
US-10-196-749-536
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--NLKEKKAQFLEDISTYGDAFLLLPAFS---- 272
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | | | | | : | | | : | : | | | SLYCSYETNSNAYLLLQPIRKEVIHLEPYIALYHDF 354
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                ANSMEMBRANE POLYPEPTIDES AND NUCLEIC THE SAME
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 6; Length 544;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            e File Wrapper or PALM.
APPLICANT: ACIDAG, CERTED AND TANAMEMBRAN TITLE OF INVENTION: SECRETED AND TANAMEMBRAN TITLE OF INVENTION: ACIDS ENCODING THE SAME FILE REFERENCE: P943081C340
CURRENT APPLICATION NUMBER: US/10/196,749
CURRENT FILING DATE: 2002-07-16
PRIOR APPLICATION NUMBER: 60/05268
PRIOR PILING DATE: 1997-09-18
PRIOR FILING DATE: 1997-09-18
PRIOR PILING DATE: 1997-09-18
PRIOR PILING DATE: 1997-09-18
PRIOR PILING DATE: 1997-09-18
PRIOR FILING DATE: 1997-09-18
PRIOR PILING DATE: 1997-10-17
PRIOR PILING DATE: 1997-10-24
PRIOR FILING DATE: 1997-10-28
PRIOR FILING DATE: 1997-10-28
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4.1%; Score 86; DB
Best Local Similarity 20.6%; Pred. No. 5.9;
Matches 59; Conservative 42; Mismatches
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355 VSDSEAQKIRELAEPWLQRSVVA
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ORGANISM: Homo Sapien
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